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ABSTRACT

One of a series of papers resulting from a Fund for the Improvement of Postsecondary Education (FIPSE) project to improve evaluation and planning in community colleges, this report provides information and guidance for conducting large-group, strategic planning in a community college. The report begins with general comments on planning, focusing on the process and content of planning, the time context, problems in policy making, strategic planning, and new planning elements. Next, strategies are discussed for use by college staff in assessing the external environment, by gathering information with subject and community focuses. The next section provides a review of the use of a planning charrette during the FIPSE project to deal with and synthesize a large amount of complex information on environmental trends with relevance to community college planning and operations. An evaluation of the use of the charrette and its potential application to community college planning is included. Next, a summary is provided of the workshops on planning and evaluation conducted as part of the FIPSE project following the charrette. The workshops involved faculty and administrators from over 70 community colleges in California, Hawaii, and the Pacific Basin, demonstrating ways of using institutional teams to gather and interpret information for strategic planning and to reach working concensus among those with diverse needs. Appendices include project information and background materials. (LAL)

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Improving Community College Evaluation and Planning

COLLEGE PLANNING STRATEGIES FOR ASSESSING THE ENVIRONMENT

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from the project on

IMPROVING COMMUNITY COLLEGE EVALUATION AND PLANNING

jointly sonsored by the

CHANCELLOR'S OFFICE, CALIFORNIA COMMUNITY COLLEGES
AND
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Improving
Community
College
Evaluation
and Planning

COLLEGE PLANNING: STRATEGIES FOR ASSESSING THE ENVIRONMENT

Chancellor's Office
California Community Colleges
Western Association Accrediting Commission
for Community and Junior Colleges

SPRING 1983

COLLEGE PLANNING
STRATEGIES FOR ASSESSING THE ENVIRONMENT

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COLLEGE PLANNING:
STRATEGIES FOR ASSESSING THE ENVIRONMENT

INTRODUCTION

Report Use

This report is designed for use by community college planners. With a few modifications for local circumstances, the work documented here can serve as an aid for those interested in conducting large-group, strategic planning in a community college.

Character of Work

The work which forms the basis for this report was sponsored by the Federal Fund for Improvement of Postsecondary Education (FIPSE) through a project grant to Improve Evaluation and Planning in Community Colleges. This part of the FIPSE-supported project included a several month research effort to compile information on trends that are relevant to community colleges. Following this, a two-day planning "charrette" was held in San Francisco, in March 1983, to assess the implications of this information for community college planning. Training workshops were then conducted in Hawaii and California during April and May 1983 in which practitioners used and evaluated charrette materials and techniques.

Report Content

This report begins with general comments on planning and the use of various techniques. This is followed by a review of the planning charrette: the means by which a large group dealt with and synthesized a large amount of complex information on trends important to community colleges. Especially important here is an evaluation of the charrette and its potential application to community college planning. We end with a review of the training workshops and an appendix which includes, among other things, a section on the study of the future, a review of the ways in which FIPSE staff went about researching and synthesizing information, and a summary of the background materials that were used for the charrette.

The background information focuses on five community college districts: Yosemite, San Francisco, Cabrillo, Long Beach, and Redwoods; as well as on the State of California as a whole. Consequently, the rich diversity of trends among individual communities is evident and should provide college planners with a useful reference for developing information on their specific communities and regions. The actual background materials are available on request.

We need to point out that this report does not deal with what is termed as evaluation. Most descriptions of effective planning acknowledge, as we do, that evaluation of current performance must take place prior to the development of those plans, solutions, or strategies that deal with current and future needs. Specific efforts to improve community college evaluation are dealt with elsewhere in the FIPSE project. Naturally, we'd

recommend the use of those materials in conjunction with this report.

Acknowledgments

Credit for this work belongs to many individuals. Staff and students from the five pilot districts donated generously of their time before and during the planning charrette. Counting these individuals, nearly 60 trustees, faculty, administrators, and students from every functional area of community colleges participated in the intense and highly productive charrette process.

Max Tadlock, Superintendent of the Monterey Pennisula Community College District managed the charrette and it was through his exciting and skillful leadership that the diverse group was able to complete this very difficult exercise.

The training workshops built in part on materials and experiences from the charrette. Under the leadership of Dale Tillery, a major segment of the workshops was devoted to planning with presentations by Bob DeHart, Dewey Kim, John McCuen, Glenn Miyataka, Joyce Tsunoda, Bob Swenson, and Chuck McIntyre. Over 100 individuals from community colleges in California, Hawaii, and the Pacific Basin participated in these workshops

The background materials for the charrette were gathered by Jennifer Franz, consultant to the FIPSE project. Ms. Franz's tireless efforts produced what, we believe, is the best synthesis of important trend information now available for use by community college planners in California. She, along with Alan MacDougall, Nancy Renkiewicz, Jean Vincenzi, and Chuck McIntyre, served as a writing team to edit charrette results. Finally, the undersigned are responsible for the report's general discussion and for assessing results of the charrette and workshops.

Thanks are due also to Evelyn Stacey of the state Chancellor's Office and Sue Lundquist of the Accrediting Commission for their work on this report.

Comments Requested

We sincerely hope this report will be useful to college planners. Consequently, we are interested in hearing comments from those of you who have occasion to use these materials.

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Director, Analytical Studies Chancellor's Office California Community Colleges	Executive Director Accrediting Commission for Community and Junior Collegs Western Association of Schools and Colleges	Professor Emeritus University of California, Berkeley

Process and Content

Planning in the community college or any other institution involves choosing courses of action with an idea of their future consequences. The literature contains numerous approaches to college planning. Virtually all of them, however, involve at least three basic steps:

- o defining the college's purpose: mission, goals and functions
- o looking externally and internally to see what the college ought and can do
- o selecting courses of action designed to achieve the college's purpose, given the conditions identified in the second step

Most authors argue that planning should be continuous, not periodic, and that it should form the context for making today's (and tomorrow's) decisions within a conscious overall direction for the college. This direction should be explicit, specific, and stated in writing - though there needn't be a massive "plan" that is read by few.

Critics of the more traditional approaches to planning feel that, to be effective, planning must combine rigorous analytical work with political realities. While the work must have the support of top management, it also must involve the participation of faculty and other "line" staff. If plans are to be implemented, it is the line operators who must do the planning with the help of staff.

Work should proceed on both a "top-down" and "bottom-up" basis: college plans are more than simply the sum of many departmental or unit plans. Planning information is forward-looking and, while decisions may still involve substantial risk, the degree of uncertainty about likely results of the decision should be reduced. Factors both external and internal to the college are examined. However, planning information and analysis can only supplement, but not substitute for, judgment.

There are any number of ways a college may undertake planning. It may occur as an "ad hoc" response to some crisis or pressure and be viewed as a reactive process. Or, college staff may view planning as a proactive process and undertake the work under a "deliberate" schedule that is either recurring or continuous. While it is difficult to anticipate future events, taking the initiative in planning increases the likelyhood that the college will make an effective response in the event of a crisis or as a means of fulfilling its objectives.

Time Horizon

The context for college planning may be short-term, long-term, or some combination of both. Given the need for relatively continuous decision-making, the most realistic approach is to frame decisions that must be made today, tomorrow, and next year within a general longer-term direction that recognizes conditions that are likely to exist over the next five

years and beyond. Traditional long-range planning: that is, identifying decisions that are to be made five years from now based on conditions likely to exist ten years from now is not only based largely on uninformed speculation, but also ignores the fact that those responsible for college decisions today may not be those similarly responsible in the future.

Whatever the time frame employed by a college for its planning, future trends are of major significance.

Study of the future, as a "science," began over three decades ago and has become increasingly more visible recently through the popularization of work by Toffler, Naisbitt, Kahn, Yankelovich, and others. While it's not essential that a college planner be an expert in the science of futurism, it is useful to be acquainted with the various approaches, methods of forecasting, and uses of the result. To that end, we have included in Appendix A a brief section on studying the future.

Futurists are variously classified, ranging from the very analaytical, to the highly visionary, to those who are action-oriented and advocate a high degree of participation in planning. Forecasting methods fall generally into one of several categories: simulation or generation of alternative futures (often using highly quantitative models), extrapolative trend analysis, historical analogy and scenario construction, and collective opinion methods such as the Delphi, cross-impact matrix, and charrette techniques.

The results of futures work can be used in a variety of ways, but virtually all futurists will take these results and advocate present policy actions that aredesigned to improve or correct expected future conditions. In this sense, most futures work is normative and is designed to be self-fulfilling or self-correcting. That is, futures work typically deals with value-laden goals that matter to human beings. To deal with topics that didn't matter would be a waste of limited resources. Projections or forecasts of undesirable or unwanted future conditions, for example, ought to result in recommended actions which will prevent those (unwanted) conditions from being realized. Similarly, projections of desirable futures would be accompanied by policy recommendations designed to reinforce the realization of those conditions.

Participation

The planning process may involve many or few individuals. Obviously, the college trustees and chief executive are ultimately responsible for selecting policies or courses of actions for the college. Consequently, it is tempting to consider planning to be the task of top-echelon managers. The difficulty of achieving large-group consensus on courses of action reinforces this notion. However, many "excellent" plans have been known to just "sit on the shelf" because those responsible for implementing the plan were not involved in its design. In addition, the need to identify as many courses of action or "options" as possible argues for including a rich variety of views and, therefore, also argues for the participation of many individuals with an interest in the college.

Problems in Policy-making

Certain problems inherent in policy-making must be solved if planning is to be effective. The longer the time period under consideration, the greater the "uncertainty" surrounding the decision. Consequently, staff work must make speculations about the future as informed as possible. As noted, this involves identifying possible futures and estimating the likelihood that each might occur.

Policy-making also involves the "risk" of being wrong or making an error. When decision rules are violated or when a planning process, previously adopted, is ignored, the result is a procedural error. As a result, even those policies that are substantively correct may not be implemented because the "procedure" is viewed as faulty. By contrast, the substantive error of making a "poor" allocation of college resources or taking the wrong course of action may go virtually unnoticed and, ironically, may involve less risk for the policy-maker.

Another roadblock to effective planning arises from faulty communication. Complex projections and analyses must be communicated to policy-makers in the most concise, unambiguous, and "jargon-free" manner possible. Otherwise, even the best staff work will not result in policies that represent improvements in operations.

Gathering and analyzing information is expensive. Consequently, there must be an effort to assess the cost and consequence of bringing more and more information to policymakers. At some point, the cost of acquiring additional information and educating policymakers may exceed the cost of making a wrong decision.

These and other problems such as the use of faulty models or criteria that omit relevant factors can be corrected. Likewise, the explicit identification of the college's purpose can show policymakers where their values differ from those of the institution. Even the lack of continuity (some staff design, others implement, and still others evaluate) in planning can be solved by careful organization of the task.

More difficult to solve are those problems that arise because policymakers have their own material and psychological needs. They only have so much time and energy to bring to the task. This is particularly true of local college board members, many of whom are employed full-time in addition to their duties as trustees. The act of making decisions may require bargaining, side-payments or trade-offs, formation of coalitions, advertising the merits of the decisions, and the like, all of which impact the character of policies or actions selected. While planning can't change these realities, it should acknowledge them and be structured accordingly if it is to be effective.

Strategic Planning

A popular current approach to planning is termed "strategic planning." While the literature contains many definitions of strategic planning, the concept typically includes examining both external and internal conditions, and choosing strategies (courses of action) that will achieve the college's purpose. Rather than a long-range plan, the product of strategic planning is to support a series of short or medium-range decisions. The process is designed to facilitate improvements by enabling the college to set a long-term direction, identify and select from among alternative strategies, and effectively allocate resources.

Strategic planning is sometimes viewed as the job of top management. However, as some community college planners point out, involving many staff may enable the college to achieve a consensus among the various constituencies (community, students, faculty, management, and trustees) about the appropriate direction to be pursued by the institution. While the degree of participation is essentially a matter of judgment and style, the notion of "collegiality" and other advantages inherent in having actors with varying perspectives and varying expertise involved in the planning process suggests that a "participative" process warrants serious consideration. Plans of action are far more likely to be implemented if those responsible for their implementation have been involved in their formulation.

Strategic or other planning typically involves identifting the "gap" between what the college is doing and what it ought to be doing. If this review is restricted to past and present performance, the process is termed evaluation, an integral part of planning. This involves looking

- o internally: is the college effective at what it does?
- o externally: is the college doing the right things?

Strategies are formulated to close gaps in existing performance. Planning is completed when policymakers are provided with a look into the future to see how these gaps may close or widen and if emerging future trends will create new gaps. External trends such as increasing rates of technological change are often as- or more-important than are internal trends such as impending faculty retirements (or lack thereof).

New Planning Elements

Traditionally, community college leaders have assessed their internal situation: their resources, staff morale, history, and general efficiency. Likewise, most colleges have operated with some notion (either explicit or implicit) of their purposes. The key elements missing in this traditional approach are (a) serious assessment of the external environment and (b) the use of groups of individuals with an interest in the college to synthesize information and analyze its consequences for decisions.

The next sections of this report focus on strategies that can be used by college staff to assess the external environment.

Selective focus appears to be the key to effective collection and assessment of information about important conditions external to the college.

Subject Focus

Relevant information may be organized in virtually any fashion. The FIPSE project staff used the following categories:

- demographics
- economics
- lifestyles and values
- employment and technology
- education

Many analysts would add "public policies" to this list. We incorporated such policies by topic. For instance, the potential impact of federal policies regarding immigration are discussed as part of the demographics section. Similarly, federal policies on financial aid are grouped under education as is the expected impact of possible changes to state policies on admissions and graduation requirements for public educational institutions.

Combining employment and technology is a matter of convenience since most information sources discuss technological change in terms of its impact upon the labor market and the future need for various employment skills. Even so, the two topics can be separated. In fact, the impact of new technologies for delivering community college education is, in our materials, discussed under the topic education.

Whatever the subject organization, staff must be alert to likely "cross-impact" where events in one area affect another area. For instance, the changing demographics of a region due, say, to immigration will have a significant impact on the that region's economy.

Community Focus

The FIPSE project also sought to focus upon the community. As a result, staff worked with five pilot districts to secure information specific to those service areas as well as undertaking a more general effort to collect information pertinent to all of California. The five pilot districts are:

- Cabrillo
- Long Beach
- Redwoods
- San Francisco
- Yosemite

This sample represents virtually the entire range of demographic, economic, cultural, and educational differences seen across California. Heavy and light minority populations are encountered; inner city, suburban, and rural cultures are represented as are coastal, valley, and metropolitan economies. Yosemite is nearly the sole provider of postsecondary education and most of the cultural opportunities in its service area. San Francisco, by contrast, "competes" with the University, State University, the unified school district, a host of proprietary schools, and a variety of other agencies that all offer postsecondary education. Perhaps the only thing these districts have in common is their interest in effective planning.

It is a well-known fact that community college districts do not follow standard geopolitical boundaries. Rare indeed is the district which consists of a single county, for example, or which includes more than one county in their totality.

This situation posed problems for the FIPSE project because most local data are organized along county or regional lines (regions which usually contain several counties). Census data are at least theoretically available by tract (although most of this information has not yet been published), but Census tracts had not yet been mapped to community college district boundaries, and several attempts at the local level to obtain tract information proved fruitless. (Since this work was completed, the California State Chancellor's Office for Community Colleges has obtained Census data, organized by district, for 1970 and 1980.)

Because of these difficulties with the organization of districts vs. the organization of data, it was decided to include all of the counties served by each of the five participating districts, with one minor exception. (Yosemite Community College District serves a small piece of Santa Clara County. District representatives decided to exclude that county because the portion they serve is significantly different from most of the county.) The list which follows gives an approximation of how much of each county is included within the district's boundaries.

District and Counties	Portion of County Served
CABRILLO	
Monterey County	Three northernmost Census tracts
Santa Cruz County	Total county
LONG BEACH	One southwestern city (data for the city used where available)
REDWOODS	
Del Norte County	Total county
Humboldt County	Total County
Mendocino County	Western half of county with slightly less than half of the county population
Trinity County	Western edge of county - roughly 1/18 of total

SAN FRANCISCO	Total County
YOSEMITE	
Calaveras County	Southern portion - roughly 1/3*
Merced County	Southwestern portion - roughly 1/4*
San Joaquin County	Small fraction on southern end*
Stanislaus County	Total County
Tuolumne County	Total County

The rich mixture of communities in this report provides a look at the wide variety of external conditions that may impact the community college throughout California. Very likely, the reader's own service area will look something like one of the five areas described here. In any case, our experience in securing information for the various areas, recounted in Appendix B, should be useful. The actual information collected is available in a technical supplement to this report. A summary of that supplement is contained in Appendix C.

Syntesis

A wealth of information is available. To collect it all is not only costly, but also counterproductive because analysts and policymakers have difficulty drawing implications. Only the most relevant information should be assessed.

There are several ways to determine what is relevant for policymakers. At the one extreme, one or just a few analysts can sift through the wealth of information, systhesizing it to a manageable size for policymakers. While this technique can be quite efficient, it is subject to the values and perceptions of the analyst(s) which, if heavily biased, may result in some important information being eliminated. At the other extreme, information may be collected then provided to a very large group which, through some kind of consensus-building process, synthesizes the material to a manageable size. Techniques of consensus-building synthesis include the Delphi process and the charrette. The latter technique was employed by FIPSE staff and is described in the following section.

* District representatives believe that the people living in these areas are similar to those living in the remainder of the county.

CHARRETTE PROCESS

Technique

This process is derived from the French word "charrette," meaning a two-wheeled cart. As the story goes, architectural students would prepare their drawings for a final exam and load them in a horse-drawn charrette. The student and his drawings would then proceed through the streets of Paris to the exam destination, accompanied by colleagues who would examine the drawings, ask questions, and make suggestions. Last minute refinements would be made to the drawings and the student would arrive at the examination having the benefit of this final, intense preparation.

Over the years, architectural firms came to use an adaptation of this process in which a group of architects would prepare drawings, have these drawings reviewed by colleagues, and make revisions all in one intense and continuous session. Two major ideas are at play here. First, the review or "jurying" by colleagues results in a much improved product. The continuous feedback from several rounds of "jurying" minimizes misinterpretation of suggested changes. Second, it seems that most good ideas emerge quickly in an intense and continuous work session. Further weeks or even months of meetings add little refinement.

This technique has been applied more recently to planning and problem-solving by firms beyond the field of architecture. Max Tadlock, currently Superintendent of Monterey Pennisula College and formerly a private consultant in the area of postsecondary education planning, has conducted dozens of charrettes with both public and private agencies. Many, though not all, of these charrettes have been in the field of education. Max graciously consented to conduct the FIPSE charrette even though it represented something of a departure from other charrettes involving educational institutions.

FIPSE Application

The FIPSE Planning charrette format was somewhat different and more complex than the usual application. In the usual charrette, a single topic or set of topics are discussed. The effort is to synthesize the important elements and brainstorm ideas and solutions. These ideas are "juried," that is, presented and critiqued. The result of this jurying process is taken by a writing team to be refined and returned to the participants for the next round of work. In the next round, further refinement of ideas and solutions about the same basic topic(s) takes place. Successive rounds provide further refinement.

The FIPSE project used this general approach. However, the focus of successive rounds did not remain the same nor did the composition of the working groups.

Round I

Charrette participants were asked in Round I to identify and synthesize those trends in the "environment" that are most relevant to community college planning and operations. For this purpose, participants had been provided with a comprehensive package of information on external trends and conditions prior to attending the charrette. (As noted, the actual information so provided is available in a technical supplement to this report.)

Due to its complexity, Round I was conducted in five subgroups, representing the topical areas of:

demographics,
economics,
lifestyles and values,
technology and employment, and
education.

After intense analysis and discussion, these subgroups reported their findings to a three-person jury before all of the subgroups. The jury commented on the reports and a critique by the entire group followed. A five-person writing team then took the results of Round I work by the subgroups and, noting comments by the jury and others, edited the draft reports. The five revised reports were then made available to the subgroups as they began work on Round II.

Round II

In contrast to the usual charrette where Round II covers the same topical areas as Round I, the FIPSE planning charrette extended the topics under consideration and the subgroups were reorganized slightly to reflect this. Round I observations about relevant future trends were reviewed by the subgroups in Round II for their implications for community college

instruction,
support programs and services,
human and physical resources,
finance, and
management.

For example, an examination of future trends in demographics and immigration policies suggests that there will be an increasing (absolute and relative) number of Hispanics and Asians residing in California. This means that community colleges will enroll relatively more limited and non-English speaking students in the future, thereby requiring more attention to basic skills curricula, assessment, and counseling if colleges are to effectively carry out their role. Such activities imply more small group, labor-intensive operations which, under certain assumptions about the economy and available tax revenues, could require cutbacks elsewhere in community college operations. This somewhat pessimistic scenario brightens if more optimistic revenue projections are posed or if advances in the technology of delivering education will allow colleges to affect off-setting economies, thereby enabling them to conduct disproportionately

expensive basic skills without reducing services elsewhere in their operation.

This example illustrates the complexities raised by a relatively simple and, in this case, certain trend. Virtually all aspects of community college operations are affected. The large group charrette process deals with these problems effectively by having a wide variety of expertise available and, consequently, a broad range of potential implications and solutions explored. This interaction among different functions or departments of the college is reinforced by the jurying process.

The subgroups in Round II were organized so as to bring individuals to the area of college operation that corresponded to their speciality or strength. Work of the subgroups in Round II was subjected to the same jurying process (critiques by three jurors plus total group reaction) as in Round I and the subgroup reports were again turned over to a writing team for polishing.

Round III

The subgroups were reorganized further, in Round III, to focus on the five pilot districts for which detailed environmental data had been collected:

Cabrillo,
Long Beach,
Redwoods,
San Francisco, and
Yosemite.

The subgroups in Round III were to assess the specific ways in which the relevant environmental factors and general inferences for community college operations would impact planning and policymaking in their respective districts. They were also to assess the utility of the charrette process for planning as it is conducted in these districts. For this final round, the jurying process was replaced by a general discussion among the entire group.

ROUND I: ENVIRONMENTAL TRENDS

The following reports were developed by the subgroups, juried, polished by the writing team, and reviewed by charrette participants.

DEMOGRAPHICS

Introduction

The objective of the planning exercise, including the use of demographic data, is to anticipate long-range trends so that the college is in the best possible position to plan for and accommodate change. The population of any community (or college) is the sum total of its parts. Properly cross-tabulated data elements describe the characteristics of the population being served and the population to be served.

In and of itself, the analysis of demographic data does not provide definitive program direction. However, correlation with other components of planning (e.g., technology, values and lifestyles) can assist us in making timely policy determinations and decisions.

Critical Data Elements

In order to make appropriate decisions, we need to understand both the internal and the external environment. We need data both about the college and its students and about the community and its population.

- Data about students comes from enrollment statistics and special surveys.
- Data about community comes from census and other sources.

At a minimum, the following community data elements, with appropriate cross-correlations, are needed: age, sex, income, ethnicity, education, occupation, language facility, employment/unemployment and disabilities.

Available local data elements should also be utilized. Examples of these would be K-12 statistics, Health Department figures, and Community Development studies. Also required is an understanding of political, economic and environmental constraints.

When properly gathered and analyzed, data provide not only background information, but also suggest answers to specific questions as they arise. However, trends should be analyzed with caution because unexpected events may alter anticipated outcomes.

Implications for Planning

Currently available data suggest the following trends and implications:

- The population is becoming increasingly diverse, and the percentage of minorities is increasing. (Whether this trend will continue is subject to economic factors, immigration policies and world events.) Colleges will need to know different cultures and value systems as well as how to teach diverse populations.

- The population is growing older - i.e., the percentage of older adults is increasing. People will be working longer and making more career changes. Post-retirement activities will become increasingly important.

- As women move into the workforce, there will be a need for job training and assistance with social independence. More attention will need to be paid to working women, older women and single women.

- Real income is decreasing. The desire to obtain an education will be motivated by more than a desire for increased income. Education will be more important than income.

- The increase in service occupations suggests the need for new skills and new values

- There are changes in education background at both extremes of the spectrum. We will need both more remedial as well as more post-baccalaureate education.

EMPLOYMENT AND TECHNOLOGY

Introduction

Information about trends in employment and technology is essential in the planning process. Because "work" is an important facilitator of self acctualization and personal growth, it is imperative to recognize that among the major trends which have been which have been identified by a variety of writers, are:

- Movement from an industrial soociety to an information-based society,
- Displacement of assembly-line workers and permanent elimination of their jobs through various types of automation,
- Significant changes in office occupation due to evolving technologies, and
- The need for retraining on a massive level.

In response to these changes, community colleges should:

- Establish and promote mutually beneficial partnerships with industry.

- o Devise a system of ongoing program review including an assessment of needed new programs.
- o Build programs that will respond to job entry, transition, and in-service requirements of workers and industry.
- o Emphasize the demography and growth of people in a clear priority rather than merely responding to the short-term needs of industry.
- o Continue to emphasize communication skills, appreciation for the arts and other liberal studies for all working Americans.

Critical Issues

Alvin Toffler stated more than a decade ago that if we do not learn from history, we shall be compelled to relive it; if we do not change the future, we shall be compelled to endure it.

The notion of changing patterns in technological developments in computer-related areas and services, diversified manufacturing and electronic-associated areas presents a very serious challenge to the California community colleges in the years ahead. This challenge necessitates that institutions consider issues and if indeed they are to respond effectively to emerging needs within society. These issues include:

1. State-of-the-economy - California employment outlook;
2. Internal trade and economy and their impact on employment and jobs;
3. Advent of large numbers of women moving into the workforce;
4. Impact of technlogical development on the community;
5. Shift in availability of general resources for education;
6. Changing nature of work, i.e., leisure, time, service-oriented, homework, etc.
7. Ability of the community college to respond to change.

1. State-of-the-Economy - California Employment Outlook

The growth rate of jobs in California between 1970 and 1980 was significantly greater than the growth rate in the U.S. as a whole. If this trend continues, there will be differential pressure on California educational institutions to provide additional employment training. For some time now, it has become clear that California appears to be attractive for industry due to the fact that it has a well-trained labor force, is geographically appealing and the amenities in the state are generally rated superior to those of most regions. Are community colleges prepared to respond to these rapidly expanding employment demands?

2. International Trade and Economy and Their Impact on Employment and Jobs

Due to the involvement of foreign trade and economy, it is anticipated that increased involvement of foreign industry may become a major part of the California economy. The need and demand for skilled workes for these industrial bases must be assessed.

3. Advent of Large Numbers of Women Entering the Workforce

The impact of new technology on the demise of old occupations and creation of new ones is likely to be dramatic. These impacts will fall particularly hard on less-educated female workers. Will there be a place in the community college for these displaced workers? Can community colleges continue to be responsive to the employer's needs of women, minorities, and immigrants?

4. Impact on Technological Development in the Community

Permanent structural shifts in the economy and the snowballing rate of technological change have created a critical need for retraining to fit the unemployed. As needs change within communities served by community colleges, will they be effective in adapting to these changing needs? Will the community college continue to remain in the forefront in establishing relationships required to adequately respond to the predicted technological impact?

5. Shift in Availability of General Resources for Education

Resources presently existing within community colleges vary according to the size of districts and the manner in which allocation of resources occurred prior to the present decade. Today, institutions within postsecondary education are finding one priority after another competing for the same dollar. As technological change continues at its alarming rate and employment demands shift, community colleges will be faced with decisions affecting the limited resources available to the institution. So the demand for service shifts and the need for training in new occupational fields is required, will the community college be effective in shifting resources to meet these pressing needs? Will shifts in resources be possible? What mechanism will be used to substantiate these shifts and how will an institution be able to evaluate whether or not it has been effective?

6. Changing Nature of Work

The advent of technological changes introduces changes in lifestyles which promise to affect the worker in a variety of ways. More leisure time is predicted and greater demand for services is expected. Will community colleges be in a position to provide for increased leisure time? Will they be able to adapt to the change to a service economy?

7. Ability of the Community Colleges to Respond to Change

Flexibility has been a unique feature of the community colleges. This flexibility has made is possible for institutions to respond to changes in the community with a minimum of difficulty. Fiscal reductions, the tax revolt and legislative mandates have had a major impact on the community colleges' ability to respond. At the same time, however, the college has maintained diversity, flexibility and comprehensiveness. The new technological thrust raises a vareity of questions. Will community

colleges have the ability to respond to these changes? Will finance patterns and allocations make it possible for community colleges to respond to the ever-increasing demand for retraining and services? Can institutions maintain the needed instructional delivery system to prepare students with state-of-the-art skills?

Significant changes in the California economy are based on shifts in information-related technologies. In this regard, California has become a focal point for the future. Community colleges need to become more intimately involved in responding to and participating in these changes.

Implications

- o Stronger institutional planning effort;
- o Better needs assessment;
- o Career planning and assessment centers for students;
- o College participation in creating linkages with business and industry;
- o Stronger staff development;
- o Improved program review and development;
- o Integration of new technologies into college operations;
- o Improve financing structure allowing colleges to address employment change;
- o Preparing the community to deal with the challenges of change; and
- o Expanded college role in in-service versus pre-service for employment.

VALUES AND LIFESTYLES

Philosophy

California community colleges, committed to open access, welcome a variety of values and lifestyles exhibited by students. These values and lifestyles can have a significant impact upon the learning processes of individuals.

The institution itself also has a conscious or unconscious system; the congruence, or lack thereof, of these two systems may determine the success or failure of the student, the institution, or both. The institution, while recognizing the differences in value systems and lifestyles, also has the responsibility of transmitting information about those trends in lifestyles, attitudes, and preferences that will enable students to succeed in a changing society. At a minimum, the institution must come to grips with the issue of value systems and decide what values it wishes to impart to students.

Critical Data Elements

Possible changes and alternative futures for lifestyles, values,

attitudes, and preferences of students have important implications for planners and planning in an institution. The time frame of these changes is 5 to 10 years. The changes include:

1. The "family" elements will have many single-parent households, many households containing non-related individuals, many households with dual incomes.
2. An individual will feel impermanence because of future shock, alienation and isolation in a changing socety. These forces will cause stress to individuals.
3. The switch from the "me" society to the community has begun and may continue.
4. Leisure oriented lifestyles are becoming more prevalent.
5. A pluralism or increased hetrogeneity in cultures has happened in many communities.
6. There has developed a distrust in institutions including schooling (but maybe not in education).
7. There has been a devaluation of traditional educational providers.
8. The public (including students) has become disillusioned with the worth of training and/or education.
9. People need "high touch" to go with the "high tech" society.
10. There has been a de-emphasis in sexual differences with respect to types of training.
11. There is the lifestyle of unsolicited leisure (layoffs, firings) caused by robotics or dislocation.
12. People want instant gratification and are concerned with presentism.
13. The "Third Wave" is being incorporated with people concerned about global perspectives when viewing the changing world.

Implications for Planning

The following statements are natural outgrowths from philosophy and critical elements of values and lifestyles:

1. The people in an institution need to be sensitive to changing life styles, values and preferences in the planning stage.
2. Planning must include alternative futures of values, lifestyles, preferences and attitudes. These are important but sometimes subtle influences in the matter of design of curriculum, staffing, instruction, services and staff development. Any incongruence of student and institutional values will be profoundly troublesome.
3. Survival as an institution is contingent upon our ability to maintain a competitive edge as opposed to non-public technical education providers.
4. It is necessary to launch cooperative ventures with students to know what they bring in and what they take with them as a result of attending a particular institution.

ECONOMICS

Introduction

Among the many necessary elements in planning for community colleges is the examination of the many economic factors that affect the mission, support and functioning of the institutions. Planning for the college should be based on a clear understanding of the present realities of the community and the best possible analysis of where it is heading in relation to the larger economic community. Colleges inhabit the same economic world as do other enterprises. It can no longer be assumed that educational institutions of the public sector will enjoy the privilege of shelter from the economic storms that buffet the community and state.

Critical Elements

There are many elements of the economy that affect the college, some directly, others more subtle in effect. Analysis may take the form of scientific survey research, econometric data analysis or sophisticated trend analysis. It is often intuitively interpreted on the basis of superficial "quick and dirty" analysis. The latter is often part of the very useful "bag of tricks" of experienced administrators. Increasing complexity of interactive elements in society and the economy make reliance on intuition and experience dangerous. The magnitude of risk faced by institutional leaders today demands greater sophistication in data analysis and more critical evaluation of information offered in support of a horde of special interests.

Public Policy Analysis

1. Regulation and law from state and federal governments constrain both institutions and the local environments in which they must operate. Familiarity with the legal and regulatory environment as it affects the institutional, local and state economy is crucial to planning.
2. Planning regulations of local and regional government affect the speed with which population changes, industrial development, and institutions themselves may grow. Regulatory agency activities at all levels are becoming increasingly important to colleges.
3. Taxation law and policy affects not only immediate funding for the public sector enterprise but says much about potential for support.
4. Transportation policy and posture can substantially affect enrollment potential of a community college.
5. Monetary policies, primarily federal in origin, affect long-range planning in that the viability of bond financing for both colleges and complementary institutions is frequently a function of such policy.

Sources of Wealth

6. Private sources of most kinds affect a potential local tax base. Private sources of some sort may be tapped for foundation or other gift support. But they must be known and understood in order to

successfully be approached about support for the local college. But they must be known and understood in order to successfully be

Technological Change

7. Industrial trends of some economic consequence may be predicted with knowledge of changes in technology. It is necessary for college planners to stay close to industrial technology of the district and region.

Indices and Trends

8. Employment rates, by kind of job, tells something of the potential for occupational programs.
9. Individual household incomes inform the college about the ability of people to afford education.
10. Interest rate information assists the college in planning its own capital development in projecting its income and in predicting changes in local interest-dependent enterprises.
11. CPI and other indices inform planners about potential changes in labor costs.
12. Inflation rate information informs about ability to repay long-term obligations.
13. Retail sales and profits, and manufacturing sales and profits suggest information about availability of locally-spendable income.
14. Data on new businessess and business failures inform planners about potential usefulness and viability of instructional programs and predict employment trends.
15. Demographic trends suggest not only the existence of changes in student markets, but also in other local markets that may directly or indirectly affect institutions.

Implications for Planning

Short-Term to Five Years

16. Increasing encroachment of central authority on local institutions is a central fact of our times, and should be considered as a source of constraint in both economic and operational terms.
17. The shift away from a production economy to a service and information economy must be part of the analysis of the future viability of enterprise.

Long-Term to Ten Years

18. Technological change, highly touted, usually has some lag in implementation (example: the application of television to instruction) and, therefore, may in many instances be examined as a longer-term variable.

All of the above signal changes in the curriculum and consequent internal tensions in institutions. All institutions need to involve people and

resources in analysis. Institutions and institutional people can make an impact on their own economics by influencing public policy.

EDUCATION

Introduction

Educational systems are in a state of change. The prognosis for the future of community college education will largely depend on how the individual colleges and districts respond to the different demands placed on them by changing lifestyles and values, economics, technology and employment, and demographic trends. Planning based on intelligent analysis of trends, which results in programs and services to meet changing community needs will enable community colleges to survive.

Critical Issues

Seven main critical areas of change have been identified. These areas include changes in:

- o the student population
- o the amount of information needed to be stored and assimilated
- o the methods used to deliver instruction
- o teaching staff
- o the amount of resources allocated to community colleges
- o governance within the community college system
- o the number and types of educational providers in competition with community colleges.

Implications for Planning

Student Population Changes

Demographics related to current student populations and projections in the future indicate that the traditional student has dwindled in numbers. The average age of students has increased and will continue to do so. More women and minorities are enrolled and population projections continue to predict progressively larger enrollments among these groups. Special programs may need to be implemented for non-native-speaking minorities particularly in the areas of vocational education, e.g., bilingual instruction.

Students are taking fewer units and because of economic needs may be working in addition to attending college. Some of these non-traditional students may even be less interested in credit than in obtaining needed information or a skill.

An increase in the older student seeking retraining or in-service programs as opposed to the pretraining student could also change the focus of instruction in areas of vocational and/or community education.

Changes in the Amount of Information

The availability and amount of information is increasing at a rate that exceeds the current ability to store and process the information. The library/learning resources divisions need to develop advanced technology to store and process information making use of the new technology available in this area. Faculty need to have quick access to information in rapidly changing disciplines. This information should be analyzed and organized so that faculty could quickly determine what is important to their teaching discipline.

Not only do individual colleges need to develop their own system but networking among colleges and with outside data sources could promote better information systems at reduced costs.

Changes in Methods Used to Deliver Instruction

The new technologies related to television and computers should allow community colleges to expand the delivery of instruction into outlying geographic areas. These new technologies, while offering potential for a larger extended classroom, also present a multitude of long-range planning considerations. With so many options available, cost/benefit analysis is crucial in this area.

Changes in the Teaching Staff

Changes in the teaching staff show a progressively "graying" faculty who will need to be encouraged to find new ideas and enthusiasm for instruction. This fact combined with resource problems may necessitate the closer examination of tenure and seniority as it relates to effective teaching and affirmative action.

Teacher hiring and retention in areas such as math, science, and computer science will have to be examined carefully in order that quality programs may be maintained in these areas.

Technological advances may suggest a more diversified role for faculty. For example, one faculty member may excel on television, another may be able to set up tutorial modules.

Changes in Amount of Resources Allocated to Community Colleges

External funding may be one way of compensating for dwindling resources. The increased use of foundations and contract classes may offset some of the revenue losses. However, tuition must be examined closely to determine how it would impact access and whether the benefit of increased revenue would offset the potential access problems.

Colleges should also study cost/effectiveness of all operations.

Changes of Governance Within the Community College System

The new participative form of management cited by many futurists has begun to apply to community colleges. Governance will become more participative and many ideas will originate from the ground floor, moving from trickle-down to bubble-up management.

State and legislative influence will be more strongly felt in the future and push the community colleges toward centralization. Colleges should maintain as much flexibility as possible to continue to operate programs that respond to the needs of the local community.

Changes in the Number of Other Educational Providers

In recent years, proprietary schools and businesses and industry have developed training programs that parallel community college programs. These schools capitalize on intensive, fast training aimed at giving a student specific skills to perform immediate occupational tasks. Community colleges must determine whether this represents an area where they should be responding with programs that would be tailored and marketed in a similar style. A final note: "If you think education is expensive, try ignorance."

ROUND II: IMPLICATIONS FOR COLLEGE PLANNING AND OPERATIONS

INSTRUCTION

Assumptions

Henry Adams has said "A teacher affects eternity - he never knows where his influence will end."

Instruction is the heart of the institution. This section proposes a model of instruction. Some assumptions were made under which the instructional progam model must be operated. These assumptions do not presume any ranking in the list. The assumptions are:

a. We are all learners, functioning at different levels.
b. The college exists for instruction.
c. The college strives for quality in instruction.
d. The college is comprehnsive.
e. A set of essential societal skills are required.
f. The college is responsive to the community.
g. The faculty/college must remain current in discipline and state-of-the-art.
h. The faculty/college needs to resond to a variety of student needs.
i. The college is not isolated; it operates interdependently with many other entities.
j. Program evaluation/review is a tool for planning.
k. The college requires flexibility to shift resources internally.

Planning Factors

In order to accomplish the proposed model, the institution needs to have some quantitative and qualitative data in hand. These items have been called planning factors and are listed below - again with no ranking intended.

- Assess the characteristics of the clientele.
- Determine what the college is doing with respect to services and instructional delivery system.
- Determine what changes are indicated or required.
- Assess the needs of the community.
- Examine characteristics of the community (these are descriptors as opposed to the needs).
- Perform student followup studies.
- Look at articulation to determine what the institution is covering in instruction.
- Examine the institutional characteristics of organization for responsiveness to change.
- Evaluate processes for providing inservice, retraining, etc., for the faculty.
- Examine the availability of resources such as people, dollars, etc.

Student Characteristics

The characteristics of students are of the primary importance to instruction. These characteristics include:

- The student brings a variety of basic skills to the institution. An increasing number of students lack basic skills.
- There is a wide variety of ages of students.
- There is a greater number of part-time than full-time students and this trend is increasing.
- There is a broad ethnic mix with large minority populations including Blacks, Hispanics, Asians.
- The students are seeking saleable skills.
- Students are wanting pre-employment skills in service-related areas.
- There is a trend toward a greater number of transfer students.
- There is a large influx of women as students.
- Many students are seeking concentrated short-term educational learning experiences.
- The students bring a wide variety of learning styles with them.

Instructional Model

The model has been divided into three parts; the program(s), delivery modes, and how the plan might be implemented.

Program(s)

- Many highly specialized job-training programs are required.
- The core skills program is needed including components of oral communication (thought to be the most important by the group), reading, writing, computation, analytical/rational thought, learning skills.
- An assessment/placement scheme should be studied.
- The transfer/lower division program should include general education (including AA and AS degree requirements), honors (including high school students) and majors programs to meet learner needs.
- Competency expectations for all programs should be studied - competency coming into and exiting from the programs.
- Continuing education and/or retraining programs must be developed or enlarged as needed.

Delivery Modes

When considering the modes of delivering instruction, the following possibilities should be taken into account:

- individualized instruction
- competency-based instruction
- learner-centered instruction
- state-of-the-art (making sure the instructional modes and material are current)
- emphasis of efficiency/effectiveness in modes (lecture, TV, self-paced, etc.)
- length of course (intensity)

- removal of artificial barriers existing in instruction (e.g., occupational vs. non-occupational, academic vs. occupational, etc.)
- cooperative ventures with community - a college open to outside ideas.
- interaction of instructional programs with instructional support programs.

Implementation

In order to implement the instructional program as proposed the following features were offered:
- assess faculty from points of view of competencies and attitudes
- assess the organizational structure as to institutional incentives for changing such as sabbaticals, faculty exchange, institutional development
- utilization of non-traditional staffing patterns
- provide staff for implementation of change
- review the curriculum development process
- systematically involve trustees, college personnel and community in the planning process and in the rationale for change.

Note:
Certain concerns have not been incorporated into the instructional model:
- There hasn't been a concerted effort to solve the problem of how to accomplish the model. It still looks like a "patch-work" quilt.
- There isn't sufficient attention paid to the method of funding the model.
- The model should over-emphasize the necessity for change to answer the needs of the community.

SUPPORT PROGRAMS AND SERVICES

Philosophy

The overwhelming message of the discussion on demographics, technology, values and lifestyles, et. al. is the fact of change. However, this message must be interpreted with caution. The problem is not change per se. Rather, the problem has to do with the institution remaining stable in the face of change.

- o If institutional stability is to be maintained in the face of change, we believe that students and faculty will need to depend increasingly on support programs.
- o As we plan for the support programs of the future, we must recognize that the responsibility for fulfilling the community colleges' mission is equally shared by instructional and support progams.
- o Support program strategies of the future will focus on:
  1. assisting students to fully utilize the college's educational offerings; and
  2. assisting faculties to adapt to the changing interests, needs and expectations of the students and of the community.

- o Support programs of the future will entail better-organized efforts to successfully integrate students into the educational milieu.
- o Supporting students is everybody's business. Instruction is everybody's business as well.
- o We assume that there will be an integration of support services and instruction. We hope that it will be a planned integration.

The group's presentation of its statement of philosophy was accompanied by a graphic depicting a painter (the community) using a palette (change) to paint on an easel. On the drawing surface of the easel was the institution ("our college"). Supporting the easel was a tripod with the following three pedestals: instructional core, support services, and fiscal resources. This graphic symbolizes the fact that all three of these pedestals support the institution, all three are necessary to its support, and all are interdependent.

Critical Issues

The three functions of support programs are access, retention and transition. Student success is a critical aspect of each function.

Key "traditional" elements supporting these three functions and thus student success are the following:

A. Student Services
- o Counseling and Guidance
- o Admissions and Records, and Registration
- o Special Services: EOPS and Enabling
- o Financial Aid
- o Veterans Services
- o Student Affairs: Co-curricular Activities, et.al.
- o Athletics
- o Assessment and Advising
- o Placement
- o Health Services
- o Articulation with High Schools and Four-Year Institutions

B. Auxiliary Services (none specified)

C. Other Services
- o Tutoring
- o Library
- o English as a Second Language
- o Remediation
- o Transition
- o Security
- o Recruitment and Outreach
- o Child Care

Implications

With respect to Admissions and Records, the key word is matriculation. We currently do this, but only in a limited fashion. This function needs to be strengthened. Other aspects of this area which need to be addressed are admissions, the registration process, open access and academic progress.

With respect to Student Programs, flexibility will be a key issue. Sub-issues are services, financial aid and changing populations. Assessment needs to consider not just the measurement of English and math, but also learning disabilities, the limited- and non-English-speaking, and learning styles.

A critical issue is that Support Programs need to be a shared responsibility. Faculty and administration need to be involved, particularly in times of retrenchment. Mutual accountability will also be required.

Counseling and Advisement need to consider new careers, new approaches, new technologies and student placement. Other factors which will need to be considered in the coming years are student follow-up evaluations, inter-institutional coordination of support services, funding mechanisms for support services (differential funding is a possibility) and institutional development systems. Coordination and funding should be interpreted in the context of the wider community - i.e., in terms of external agencies - as well as in terms of educational system.

A second graphic was presented to summarize the discussion. It showed the four external change areas (demographics, lifestyles and values, employment and technology, and economics) impinging on the circular instructional core through a ring representing supportive services. This graphic was designed to represent the "optimal interdependencies between suupport programs and institutional programs in a systems fashion." The word "optimize" should not be interpreted as "maximize." Rather, the issue is to find the right proportions.

Reaction

The jury reacted to the presentation with the following questions and issues:

- How can support prsonnel get to the faculty to help them?
- The mechanisms for adapting to change need to be specified.
- How do we get students to the services they really need?

- Students are becoming increasingly "invisible" to faculty - faculty "don't" see them. Support programs serve to help faculty see students (as they are). What was missing from the presentation is the "how" of this.

- The presentation was largely philosophy, credo.
- The easel was an unfortunate metaphor - it is so easy to knock one leg out from under it. The artist's work should have been on a solid pedastel.

- The presentation contained a lot of "rhetoric" about bringing things together. However, the portrait was one of fragmented add-on services.

Floor reactions included the following:

- The presentation seems to be an advocacy and growth statement. Did the group consider the limitations of resources?
  Response: With a changing population, support is needed for retention. If students are retrained, funding will come from traditional sources (ADA). If students are not retrained, funds will be lost. Also, there needs to be more shared responsibility for student support. Other arms of the college need to be involved. This does not necessarily mean more resources - only more involvement.
- The presentation doesn't address the "how" of collaborative arrangements for providing services. Also, "assessment" should include business' assessment needs.
- The boundary on the second graphic should be a broken line to show the interrelationship between instruction and support.
- The term "transitions" should be clarified.
  Response: What was meant was assistance to students when or as they leave for employment or advanced education.
- Student support has become too specialized, "over-professionalized." If there is retrenchment, this will present a major retraining issue.
  Final Response: In retrenchment, there is a tendency to polarize. Support services can function to help the system adjust to change and adapt without polarization.

HUMAN AND PHYSICAL RESOURCES

Introduction

An essential component of community college planning includes an analysis of human and physical resources available to the college. This assessment should include a description of the current issues, goals, and means of responding to the future.

Critical Issues

As a framework for understanding, staff-related current issues are identified in four subsets of instruction, management, student services, and support services.

Instructional Issues

The major current issues with implications for planning and institutional staff include:

- question of permanency (tenure)
- qustion of age

    - early retirement incentives/benefits
- disenchantment with education
    - faculty, students, community
- questions of productivity
- questions of rifing and senority
- advent of new technology
- need for retraining
- interest representation
    - collective bargaining, academic senates, interest in involvement by other segments of college, strains on governance structure
- affirmative action (staff/student parity)
    - hiring policies/retraining of staff

Management Issues

Critical assessment of management/staff issues must respond to the following:
- aging management staff
- job stress
- problem of finding qualified replacements
    - relocation, last hired, working spouses
- management training
    - universities, OJT, internships
- tension between need to hire from within and available expertise outside
- lack of salary and other incentives
- Board interference
    - mixed messages/policy

Student Service Issues

Important considerations include:
- pressures from growing heterogeniety of students
- vulnerability to cutbacks
- expected/unexpected impacts of fees/tuition
- growing need for student assessment activities
- need for greater staff sophistication and institutional consciousness
- pressure from reduction of services provided by other agencies
- problems of mission, priorities
- problem of updating staff to changing student values, lifestyles, preferences, and attitudes

Support Service Issues

Critical factors are:
- technological changes
- redefinition of roles/governance involvement
- difficulty in finding competent staff in areas of data/information management
- new work environment
- problem of updating staff to changing student values, lifestyles, preferences, attitudes
- time constraints resulting from learning regulation

- comparable pay/comparable work

Goals: Where We Want to be in Five to Ten Years

There should be commitment:
- to have a qualified, competent, representative and productive staff
- to so define roles and working conditions to allow for individual professional fulfillment and personal satisfaction
- to develop a staff which is flexible and adaptable to a changing world
- to devote adequate institutional resources to recruitment, training, and retraining of staff
- to develop effective incentives for personal and professional growth.

Means: How Do We Get There?

The following actions should be considered:
- institutionalize effective programs of staff development - treat issues
- increase our public relations programs which tout the value of education, educators and educated people.
- re-examine and restructure:
    - process for recruiting, hiring and retraining qualified staff
    - philosophy toward and quality of compensation/incentive packages
    - working conditions
        - job sharing/alternative work week
    - alternatives to tenure
    - incentives to fixed-term contracts
    - parameters of productivity
        - quality vs. quantity
        - opposing values problem

FINANCE

The finance plan for a community college should include a credo along with consideration of funding sources, methods of allocation to the institution, and five to ten-year objectives.

Credo

The community college requires a stable funding mechanism with the state providing the base level of funding support. Alternative local funding sources, beyond foundations and contracts, should be explored and utilized to their highest potential.

Critical Factors

1. reliable funding
2. long-term funding
3. funding for growth and decline

4. increased alternative funding sources
5. review of expenditure patterns

Funding Sources

1. government - local, state, federal
2. private
   a. foundations and endowments
   b. contracts and cooperative education
3. fees and tuition (user fees)

Allocation Methods

The distribution of funds to the college should:

1. be based upon student contact hours (ADA)
2. be equitable
3. provide for program development
4. minimize categorical uses
5. minimize (unwarranted) differentials
6. provide for capital needs

The distribution of funds within the college should be based upon effective categorical planning for instruction, support services, and staff.

Five to Ten-Year Objective

The five to ten-year fiscal planning objective emphasizes the development of a college - business partnership in order to implement the above factors.

MANAGEMENT

Credo

Change is occuring rapidly within the community college environment. This rapid change dictates "thinking about the right things to do, not just about doing things right."

Two factors stand out as being important in this "change" atmosphere:

(1) Managing and governing with a tolerance for ambiguity.
(2) Managing through leadership.

Management for the future must place an increasing emphasis on consensus building in long-range planning. This planning process must be continuous, in order to accommodate colleges which must respond to constant change. It should contain appropriate checkpoints and annual review and evaluation.

Implications for Planning

Local/State Governance

In order to plan for the ever-changing demands of the community college mission in the next five or ten years, it is necessary to redefine the relationship between local districts, state agencies, and the state Legislature.

In redefining this local/state governance relationship, local college districts need the appropriate authority and responsibility to successfully carry out their mission and deliver the educational programs and related services to the community.

Appropriate Sharing of Authority and Responsibility

Within the college environment, consensus, but more important, enduring consensus is the vital element in making a complex community college work in the 80s. Decisions arrived at through consensus are more powerful and more likely to be lasting than are decisions arrived at by administrative fiat.

This kind of consensus building requires sharing of authority and responsibility by all elements of the college community - faculty, trustees, students, staff, administration.

This approach is difficult, especially for one who does not have tolerance for ambiguity. The approach does not follow a neat outline, it requires feeling your way, and it requires a willingness to make many mid-stream changes.

Some of the most positive outcomes of the consensus-building approach might be:

(1) Moving collective bargaining from a confrontational mode to a problem-solving mode.
(2) Helping individuals rise above self-interest and approach statesmanship.
(3) Making more possible and meaningful the difficult chore of re-allocating resources.

One mechanism for making sharing and consensus work is a creatively developed planning and management process. The process should include all segments of the college community in adequate numbers. It should be continuous in order to deal with the constantly changing elements related to the economy, demographics, employment and technology and lifestyles, and it must prove to the participants that the effort has a payoff. The tasks associated with this type of process offers a real challenge to all the college community. As W. C. Fields has said, "it involves taking the bull by the tail and looking the situation in the face."

Participatory management, as advocated here, is not without an inherent set of concerns that must be clearly recognized before embarking on this process. Some of these are:

(1) Attention must be paid to clearly defining the limits of authority and responsibility.
(2) Committees must understand the differences between advisory and executive roles.
(3) Staff must be trained to become more effective participants.
(4) Some tasks may be more appropriately assigned to one group or another - not all groups need to deal with all issues.
(5) Incentives must be present for participants to stay involved.
(6) Participants must move beyond special interests tomore global institutional concerns.
(7) Plans must include followup and the process must eventually become cyclical and include: implementation, accountability, review, evaluation, new planning and new leaders.

Reallocation of Resources

We are clearly in an era of fixed, or even declining resources. It follows that, if we are to adapt to and accommodate new demands, we will have to develop mechanisms for re-allocating these resources. This includes all kinds of resources - financial, physical, and human. It also encompasses that oft-neglected but very important resource - public confidence and support.

We need to be ready to reduce or eliminate programs that are no longer consistent with our mission of responding to community needs and to institute new programs that are needed to reinforce this mission.

We also need to recognize that people are our most valuable resource, and that people who have long experience in education annd commitment to the institution can and should be retrained to meet the human resource needs in new programs. Provision must be made to help and encourage people to make such transitions.

Physical plant and equipment represent a major investment. We need to seek ways improve the efficiency with which this resource is used and we must be prepared to rearrange and remodel to meet new needs.

Finally, we need to develop greater public awareness of what we are doing, solicit public input to community needs analysis, and nurture public confidence in our ability to meet those needs. In the long run, public support may be our most important resource.

Staff Involvement Requires Staff Training

If staff is to be broadly represented in the management process, and if all segments are to approach the task with a less parochial, more systemwide viewpoint, a certain amount of training is required. Everyone involved needs to have a clear understanding of what is happening - at world, national, state, and local levels - and how these events affect the direction of the college. Care should be taken to develop and disseminate comprehensive information on trends in demographics, economics, values and lifestyles, employment and technology so that all involved can understand the forces that are driving and shaping the future.

ROUND III: IMPLICATIONS FOR SPECIFIC DISTRICTS

SAN FRANCISCO

Current State of Planning

Planning in this district began in October 1982. The product will be an educational master plan.

There are six task forces which have been deliberating since November: Instructional Services, Student Support Services, Personnel, Facilities, Fiscal Support, and Public Information. These six task forces have provided first drafts to a 23-person Planning Council comprised of administrators, faculty, students, classified staff, local Board of Trustees, and Board of Supervisors. The Planning Council will determine if the role and mission of the district are being addressed.

Also, a questionnaire was mailed with the spring schedule of classes. The nature of this questionnaire was not specified. The number of returns to date has been about 500.

FIPSE Materials

There is some very interesting material about future trends which we have not looked at before this opportunity. Some of this would have been useful earlier in our planning process.

Charrette Process

The process was extremely helpful. We plan to use it in planning sessions for fiscal, personnel, management, facilities and reruns for the educational services. It is an extremely useful tool (as an initial activity) to help participants achieve a more global view. Later, we plan to use it as a tool to help hone the drafts of material.

We also heard some new ideas, concepts, thoughts and received some interesting information about other districts.

Use of FIPSE Material Prior to Planning

The material would have provided our task forces with a different perspective. The idea of using materials to provide "consciousness-raising" for all staff is a valuable one. This would have provided rationales for planning and would have given the task forces a "future orientation."

Planning Changes Due to Charrette

We definitely plan to use the technique to review the first planning draft.

LONG BEACH CITY COLLEGE

Current State of Planning

Long Beach City College is in the second year of a self-study/planning process which is based on the accreditation procedures.

FIPSE Material

Some of the materials will be used to enhance the work done by our Environmental Scan Teams. The suggestions of the other members of our table has given us some helpful insights about improving our process.

Charrette Process

We have received some valuable input from our colleagues on both our process and on the areas discussed in the charrette. However, the most significant outcome of this process has been a validation of our belief that we are on the right track.

FIPSE Materials Prior to Planning

Some of the homework materials would have been helpful to our Scan Teams.

Planning Changes Due to Charrette

"Changes" might be too strong a word. However, we have gathered some good ideas on how to fine-tune what we are doing.

CABRILLO

Current State of Planning

New data elements that have been used in this session have been in use at Cabrillo. No master plan document has been published. Much of planning is decentralized with work done at the level of major administrative units in concert with advisory committees. A major self-study and planning process is under way in which the following elements will be used:

1. self-study for accreditation, due to be completed in May 1983;
2. environmental data collection and analysis currently under way;

3. accreditation team report due February 1984;
4. institutional directions and strategies for achievement to be established through process yet to be determined (conference or charrette) spring 1984.

Products of the Planning Process

"The Cabrillo Plan" will be a dynamic document subject to updating, published as a workbook for Board and staff. In addition, there will be published a summary document for public release as part of the Cabrillo 25th Anniversary celebration in Fall 1984.

The target date, more than a year away, is established to take full advantage of the outcomes of accreditation process.

This college is presently struggling with retrenchment, which has strained to the breaking point all of the faculty governance and participation mechanisms. Planning will be part of the repair process, with the opportunity to strengthen our internal processes.

Charrette Process and FIPSE Materials

The past two days have been helpful to Cabrillo. We've learned some new ideas. This process has great potential for bringing out ideas. It is a great starting point even though they may not be refined. When we get back to campus, we will formulate efforts to synthesize the data. This may not take the form of a charrette, but will feature group process.

Planning Changes Due to Charrette Participation

The material will be of continued help as we go through our planning process, which will culminate with activities in February 1984.

REDWOODS

Current State of Planning

College of the Redwoods has engaged in facilities planning. It is now just beginning to get into educational master planning, particularly for support services. However, the planning effort is "woefully lacking" in other areas. The accreditation self-study is currently being finished and will be used for the 10-year review next fall.

FIPSE Materials and Charrette Process

A lot of materials related to our area - we can use county reports because we cover entire counties. However, the process was particularly helpful -

even more than the materials. This was because of the espirt de corps, the communication, the discussion of alternatives - the notion that someone would bring something up you hadn't even thought of.

Planning Changes Due to Charrette Participation

As a result of the participation in the project, we find there are guidelines for planning that will be most helpful.

YOSEMITE

Status of Planning

We are in the third year of developing a planning system. A first "we are here" manual has been produced. Our current phase is the first year of determining where "we should be." The district's planning system, is highly structural.

FIPSE Material Useful?

Yes. We can integrate the data on external trends into our planning system. The FIPSE (charrette) process could help us to broaden participation and "ownership" of our system.

Charrette Useful?

Yes. The organization and development of the models are helpful.

Planning Changes Due to Charrette Participation

Yes; an expansion of the scope of our planning.

CHARRETTE ASSESSMENT

Round III comments and reactions following the charrette suggest the experience was useful for most participants. A number of the districts that sent representatives have since employed the charrette or a close variation in their own planning.

Background Materials

The background materials were viewed as relevant and quite useful. Even so, charrette participants found the synthesis of environmental trends in Round I to be quite difficult. Project staff could have undertaken most of this synthesis beforehand. However, this would have resulted in the relevant trends being identified by one or two analysts, rather than by nearly 60 practitioners. Drawing from the diverse viewpoints of a larger group to accomplish the synthesis appears preferable to the more narrow perspective of one or a few individuals.

Procedural Changes

Comments by participants suggest that two changes in the procedure for providing background material and initiating the synthesis would improve the charrette. First, participants should have a longer period of time (than just several days) to review the materials: one or two weeks at a minimum. Project time constraints simply did not permit the longer, more desirable time period. Second, a modest "homework" assignment, to be completed prior to the charrette, would have expedited the process. Perhaps participants should be required to identify and present what they feel are the five or ten most significant trends in their topic area in order to gain admittance to the charrette. In any case, work of the kind expected in Round I needs to be specified in detail and shouldn't be too open-ended.

A number of charrette participants felt the need for more explicit and precise instructions regarding the task of each round and the product expected. One participant felt the need for some training about futures research and about the art of using futures information. A more structured approach describing strategies such as the use of cross-impact matrix analysis, was suggested.

The jurying process greatly facilitated the reporting of Round I. Even so, time permitted use of only one jury. Most participants feel the reports would benefit from further jurying and refinement prior to being turned over to the writing team. In addition, there needs to be time (not available at the charrette) for the writing team to complete its work and for subgroups to study the trends identified in Round I prior to undertaking the work in Round II where they are required to identify the implications (for community college planning and operations) suggested by these trends. The charrette was designed to create an intense, "pressure

cooker" atmosphere so as to generate the maximum number of ideas in the shortest time possible. In a real planning situation, it should be possible and probably desirable to introduce the "pauses" necessary to solve the problems noted above without reducing the desirable pressure for producing and assessing a wide range of ideas.

Application

Project staff and charrette participants were to accomplish as much as possible, including written reports, prior to leaving the charrette. This proved to be excellent advice. Once leaving the charrette, participants returned to their normal pursuits and project staff found that few additional contributions were forthcoming. The analogy for actual college planning seems evident. Operating staff, assigned temporarily to planning, must eventually return to their normal positions of responsibility. It then becomes difficult to draw further upon their time, unless specific commitments are established for this porpose.

If policies and strategies have been developed and finalized during the time allotted for the planning effort, operating staff may then proceed to implement these plans as part of their day-to-day assignments. For colleges that consider planning as a continuous process, charrette or other group/team efforts may be scheduled as periodic events with explicit planning assignments for operating personnel interspersed with then normal planning assignments.

Summary

On balance, the charrette was favorably viewed by participants. With suitable modifications, a group process like the charrette dealing with environmental information can be a very useful part of a college's planning activity.

PLANNING WORKSHOPS

Following the charrette, workshops on planning and evaluation were sponsored by FIPSE. A portion of these workshops utilized results from Round I and asked participants to draw implications from this material for planning, in effect replicating Round II. This exercise was well received by workshop participants who felt the materials that resulted from Round I were quite useful and that the sessions were quite helpful in learning more about planning. A description of the workshops follows.

PROCESS

Organization

Faculty and administrators from over 70 community colleges in California, Hawaii, and the Pacific Basin took part in the Spring Planning Workshops. Participants in the two-day sessions were active contributors to simulation of major activities in the planning process. Specifically, inter-campus teams (1) designed brief student surveys; (2) analyzed actual community college survey data in drawing implications for the primary domains of strategic planning and decision making; and (3) field tested the Round I forecasting papers developed during the previously discussed Planning Charrette. Groups used these papers to draw implications for curriculum and instruction; staffing and staff development; student services; and organization and management. In Hawaii, the groups were composed primarily of team members from the six community colleges, with resource people from other segments of higher education and state agencies.

The workshops demonstrated ways of using institutional teams to gather and interpret information for strategic planning and to reach working concensus among professionals with diverse needs and ideas. Other techniques were the use of consultants and involved institutional jurys to review products and strategies in planning.

Information

In all of the workshops, participants interpreted sets of trend information for focal areas of college planning. This trend information was taken from Round I of the charrette. These papers used described the likely demographic, economic, employment and technology, values and life styles, and education characteristics of the external environments of community colleges. The use of jurys and consultants enhanced the work of the teams.

RESULTS

Results of the work of each team was presented visually and orally to workshops, and reflected the creativity as well as the diversity of the participants. In general, the content of each report replicated and enriched the outcomes of the parallel session in the Planning Charrette. Because these outcomes are reported in an earlier section of this publication, it seemed important to note here that the field testing by 18 groups in the four workshops demonstrated the usefulness of the planning techniques and of forecasting in strategic planning.

General Implications

Several general planning implications can be drawn from the field testing of the use of environmental factors in planning. Among them are:

- There will be variations in the impact of environmental trends on particular community colleges.
- Each district/college must decide its priorities through self study and strategic planning. A frequent theme was that institutions must decide what is essential (highest priority), important (moderate priority), or nice to do (lowest priority).
- In order to make priority decisions, institutions will need clear statements of mission, goals, and objectives; and of strategies for their implementation.
- The concept of "comprehensiveness" of programs and services will need to be reviewed. Each community college district or system will have to decide whether comprehensiveness refers to each college, a single district, groups of districts working together, state networks or systems, or some form of time-determined programming.
- In adapting to change, we need to know what is currently working well or not, share information on successes, and reward good teaching, program innovation, and effective planning.

Illustrative Workshop Report

The following is one of the many actual reports of groups using forecasting information to draw implications for planning, in this case for staffing and staff development:

Our review of the working papers entitled "Impact of Environmental Factors on Planning" identified the following implications as having the greatest impact on staffing and professional development:

Demographics: The population is becoming incresingly diverse, and the percentage of minorities is increasing. The population is growing older - i.e., the percentage of older adults is increasing. People will be working longer and making more career changes. Post-retirement activities will become increasingly important. As women move into the workforce, there will be a need for job training and assistance with social independence. Real income is decreasing.

Employment and Technology: The following factors are important:

- o College participation in creating linkages with business and industry.
- o Stronger staff development.
- o Integration of new technologies into college operations.
- o Expanded college role in in-service versus pre-service employment.

Economic Considerations in Community Colleges: Increasing encroachment of central authority on local institutions is a central fact of our times, and must be considered as a source of constraint in both economic and operational terms. The shift away from a production economy to a service and information economy must be part of the analysis of the future viability of enterprise.

Values and Lifestyles: The people in an institution need to be sensitive to changing life styles, values and preferences in the planning stage. Survival as an institution is contingent upon our ability to maintain a competitive edge as opposed to non-public technical education providers.

Education: The new technologies related to television and computers should allow community colleges to expand into outlying geographic areas. Changes in the teaching staff show a progressively "graying" faculty who will need to be encouraged to find new ideas and enthusiasm for instruction.

From the above implications our study group concluded that staffing and staff development will be effected in the future in two major ways:

1. Community colleges will be challenged to develop strength in personnel offices to provide for long-range planning and to provide leadership in order to attract appropriate staffing in a changing world. Major curriculum changes will require that faculty and support staff be flexible. To accomplish this in an environment of declining resources will require the recruitment of specialists outside of education. This will create a demand for in-service and re-training programs much more dynamic than are currently in existence. Personnel leadership will be necessary in order to respond to curriculum needs.

2. A major leadership activity for personnel offices will be the development of new strategies for recruiting and re-training a flexible teaching and support staff. Networking on a regional basis to supply teaching expertise will be necessary as community colleges find themselves more and more in competition with both industry and other educational providers. Consortium-type arrangements will most likely be developed in order to accomplish this networking in order to avoid the development of a monolithic statewide system.

WORKSHOP ASSESSMENT

GENERAL

It is apparent from the formal workshop evaluations that the group of 112 participants found the training workshops on planning to be helpful and useful. All aspects of the workshops were evaluated and for each item, the rating scale was from 1 (low) to 5 (high). Overall, the workshops were considered to be very valuable (4.31). The opportunity to work with peers and consultants in aspects of the planning process was considered to be very useful (4.20). This rating is very interesting in view of the intensity and just plain hard work of the group sessions. But there were useful products from the group work and the jury discussions. There was a feeling of accomplishment!

EVALUATION

In the major session, the design of student survey instruments seemed most frustrating. Nevertheless, much was learned about the techniques and problems of assessing learner outcomes. The sessions were evaluated as useful (3.61), but the workshop moderator believes that much more time would be needed to develop local capabilities in survey design. On the other hand, participants are likely to be helpful in their own institutions as new efforts are made to assess learner outcomes. There were considerable achievements in drawing implications from actual community college survey information. The participants thought this process quite useful (3.75). It seems likely that if institutional teams were to use this process in analyzing data from their own students the strategy would be even more productive.

ENVIRONMENTAL DATA

The use of environmental information in planning was very well received and resulted in useful knowledge. The participants enjoyed these sessions and the strategy was rated as quite useful (3.92). For some, these sessions were fresh experiences and for others a confirmation of some of the things they have been doing in their own colleges.

SUGGESTED NEXT STEPS

An important idea emerged from the Spring Workshops which has been developed by the FIPSE staff and several California districts. In November 1983, four drive-in workshops will be held. San Francisco, Long Beach, Riveside, and Yosemite Community College Districts will serve as hosts to neighboring colleges. Each will model an approach to strategic planning with opportunity for participants to critique the model and draw implications for their own planning. Special attention will be given to the possibilities of inter-district networks and sharing in planning. Arrangements have been made for a rapid turnaround report from the set of

four workshops. (These workshops have been held and a FIPSE publication on the results is available.)

APPENDIX A

STUDYING THE FUTURE

INTRODUCTION

Forecasting or predicting the future is essentially as old as humanity. As Olaf Helmer suggests, "mankind's persistent curiosity about its future destiny" has led the human race to speculate about times to come throughout history.(8)

What is commonly termed "futurology" or "futurism", however - the systematic study of posible future conditions - is a relatively new phenomenon. According to Victor Ferkis, "most of the solid methodological work in futurology" derived from military reseach which began during World War II. As an American movement or "science," futurology was institutionalized during the 1960s, with the establishment of the Commission on the Year 2000 by the American Academy of Arts and Sciences in 1965 and the formation of the World Future Society in 1966. In more recent years, futurology has become an increasingly important tool for governments, corporations and military "think tanks" throughout the developing nations of the world. (6)

FUTURE STUDY AND ITS USE IN PLANNING

According to Alvin Toffler, one of America's premier futurists and advocates of futurism:

> If we do not learn from history, we shall be compelled to relive it. True. But if we do not change the future, we shall be compelled to endure it. And that could be worse. (11)

Future forecasting in the past tended to limit itself to the relatively fatalistic prediction of possible or probable occurrences in years to come. Among modern-day futurists, however, futurology is increasingly viewed as a planning mechanism designed "... to inform decisionmakers in both the public and private sectors of a nation of potential future dangers that must be avoided and of potential future opportunities that must be seized." (8)

Many of those now studying the future view the anticipation of "potential future dangers" as a means rather than an end. In essence, they contend that if we can see possible pitfalls before we actually encounter them, we have the opportunity to make decisions and take actions which will prevent the undesirable for occurring. From this perspective, future studies become less the prediction of future events than sets of information which enable us to change the future to conform more to our vision of what it ought to look like. Again according to Helmer:

> This ... pragmatic view of the value of forecasting [gives us] a growing awareness that there is a whole spectrum of possible futures, with varying degrees of probability, and that through proper planning we may exert considerable influence over these probabilities... This newly acquired realization of our power to affect our own destiny through deliberate long-range planning brings with it a new social responsibility for the scientist and analyst. It falls upon him to provide the comprehensive analysis of the future on which the political process of influencing the future must rest. (8)

Today, the future is no longer "unforeseeable but unique and hence inevitable." (8) Rather, if we "probe it with all the intelligence and imagination at our command," (11) we can channel the course of events and make the future ours.

TYPES OF FUTURISTS

Numerous typologies and classification systems have been developed to categorize modern futurists. One which Paul Dickson (1977) terms "starkly simple and effective" was posed by the Institute of the Future in Menlo Park. This system divides futurists into three groups, each with varying perceptions of the future:

- Analytical Futurists. An analytical study of the future is one in which "likely futures are described and analyzed. It is meant to provide a framework which can be used for action, inaction, or adaptation."

- Visionary Futurists. The work of visionary futurists "advances and/or advocates an image of the future which is counter to conventional expectations."

- Participatory Futurists. Participatory futurism, which derives from the term "anticipatory democracy" coined by Alvin Toffler, is a "process [of] basically involving great numbers of people in future planning... [It] combines future consciousness with grass roots planning" in order to develop a long-range plan which is "position[ed] outside the bureaucracy."

Another typology of futurists by Robert Theobald classifies futurists according to four "future views":

- Positive extrapolators, who project "the best" of today into tomorrow

- Negative extrapolators, who expect the worst of today's troubles and problems become our future ruination

- o Synergists, who see opportunities and dangers, pluses and minuses, etc., ahead

- o Jeremiahs, who, like Old Testament prophets, see little hope ahead unless we "mend our ways."

Perhaps the most interesting and thought-provoking works are those of the visionary futurists, whether their visions are positive or negative. For example, consider the following quote by Paul Ehrlich (1972):

> It is the top of the ninth inning. Man, always a threat at the bat, has been hitting Nature hard. It is important to remember, however, that Nature bats last.

METHODS OF FUTURISTS

In 1975, Stanford Research Institute conducted a survey of forecasting techniques and concluded that there were some 175 in current use. Most, however, were "slight variations" of seven primary methods for investigating or exploring the future. These methods are as follows:

Trend Extrapolation. This method extrapolates past trends into the future using either straight-line projections or various curvilinear projections. The curvilinear projections are "basically variations on the S-curve which acknowledges limits, leveling off periods and periods of rapid growth." Projections of this sort are "easy to prepare and understand," but they do not take trend reversals or major shifts into consideration.

Trend Impact Analysis. This method considers events which might have an impact on extrapolated trends and then estimates their probability of occurrence, the time frame during which they might occur and what impact they might have on the trend. The problem with this method is that it relies heavily on judgment; it is also quite time-consuming. Its advantages are that the new trends can be "adjusted to 'reality'" and that policy decisions can be used to cause an event to occur or not occur depending on its impact on the trend.

Barometric Forecasts. In these forecasts, "...some aspect of present reality is used to reveal the future. It is futurism at its most logical and obvious." Examples would be reviews of patents to determine probable future developments or an analysis of newspapers to cull new ideas.

Delphi. This method asks groups of 20 to 100 experts on a subject to predict future occurrences and the dates at which they are likely to occur. Responses to the first "round" of questioning are fed back to participants, who adjust their predictions accordingly. The key to this technique is that respondents work in anonymity so that dominant personalities or the "bandwagon effect" do not affect the results. Disad-

vantages of the Delphi are that it "suppresses extreme points of view," it is frequently "not clear who is an 'expert'," and the results are "often misinterpreted as fact rather than opinion." However, it does provide an "experts' eye" perspective and has proved to yield useful and accurate predictions.

Cross-Impact Analysis. This technique "acknowledges that fact that when certain events take place they are likely to speed up or hinder other events." Matrices are used to illustrate the relationships among various variables and events and to show how changes in one area will affect another area. The advantage of this method is that it "forces one to look at the interrelationships between events."

Simulation. Simulations are computerized replications of systems, using mathematical formulas to describe their operation, for making simple projections or experimenting with "what if" contingencies. This latter approach is called "gaming." The advantages of simulation are its speed and the experimental capabilities it provides. A major potential disadvantage is that the simulation system is only as good as the information which was used in constructing it.

Scenario Writing. A scenario is a "simple chronological history written in the future." It is the "most readable" device of futurists and can be used to summarize the results of other forecasting techniques, to spark thinking by being relatively "fanciful" or to set forth a set of alternative futures and show what will or might happen "if." The disadvantage of this technique is that it is heavily dependent on the writer's skill for its effectiveness. It is also prone to the inclusion of personal biases.

COMMENTARY

The best futurist writing "does not aim to predict the future as such (although specific events and innovations may be forecast) but rather tries to lay out an assortment of possible futures. Each future is examined to see what policies, events and attitudes would lead to its realization." (3) Even so, the future is essentially unknowable until it becomes the present, and it is important to realize that there are a wide variety of events and circumstances which might preclude any predicted future from becoming reality. In particular, there are what futurists typically refer to as "wild cards," "Factor X" events or "surprises" - occurrences which no logical mind could have predicted. The premier example of such an event was the Arab oil boycott, which came as a total surprise and is still having a major impact on the world economy.

Several writers have noted that futurists tend to be overly optimistic about the "progress of science and its impact" (6) and about the "chances for major scientific breakthroughs." (10) Others believe that "...most prophets overestimated how much the world would be transformed by social

and political change and underestimated the forces of technological change." (10)

There is a decided tendency among futurists to focus on technological marvels while ignoring or overlooking both societal conditions in general and the impact of predicted marvels on individuals, families and institutions in particular. This may be because people and their reactions are less predictable than the evolution of things, or it may arise from a hesitancy to envision major transformations in the way we live and work. In any event, there is a prodigious amount of writing on the science and gadgets of the future in the literature, and a relative dearth of speculation about lifestyles and social organization.

Finally, it should be noted that the future does not come in discrete units, either of time or of content. The evolution of events is a continuum, and the events are interrelated. As Toffler notes:

> Because of ... hybridization, the best futurist writing is characterized by the wide range of ideas and influences in it. The future does not come in packages neatly labelled "Economics" or "Nineteenth Century Literature" or "Biology 213." Futurists pull their insights from extremely varied sources. (11)

APPENDIX B

HOW TO UNCOVER INFORMATION ON THE FUTURE

INTRODUCTION

Locating and acquiring information on the future can be exceedingly time-consuming, and in many instances, unproductive. The purpose of this Appendix is to guide those seeking futures materials toward fruitful lines of inquiry, ultimately saving time and minimizing frustration.

These lines of inquiry are based on experience gained from preparing for the FIPSE Project charrette. That experience seems worth sharing and results in at least two general observations:

- Not everything we attempted worked, and some things we searched for never materialized. In instances of this discouraging nature, all we can do is speculate about additional avenues which might be explored given local interest, time and resources.

- A considerable amount of what we did find was stumbled upon almost purely by chance. On many of these occasions, the material we obtained wasn't even something we were seeking. Hence, a first maxim, about which more later: The person who seeks to explore the future would be wise to keep eyes and ears attentively open at all unlikely times.

The processes described here were neither uniformly successful nor necessarily methodical; but rather, are designed to communicate a variety of understandings and knowledge which we believe can save others considerable time and energy.

Sections of this Appendix parallel the FIPSE charrette's five topical areas: Demographics; Economics; Employment and Technology; Lifestyles and Values; and Education. Following these discussions, this Appendix concludes with a summary of guidelines for students of information on the future. We hope readers will be able to make use of this summary as a short guide to acquiring the materials necessary for examining the future.

DEMOGRAPHICS

While a variety of information sources were brought to bear on the topic of Demographics for the FIPSE Project charrette, the "base data" for this subject area were derived from the 1980 Census.

Census reports are issued in several iterations and, as a result, timing is important when it comes to obtaining useful data elements or cross-tabulations. Timing is also important in that the further we leave 1980

behind, the less confidence we may have in the Census data.

There have been considerable delays in issuing 1980 Census reports, and we found that reports which contained such data elements as educational attainment and income were not always available at the local level. Some geographical areas had such data, some did not, and others (particularly at the county level) maintained that they would never get such data. Thus, collecting demographic data locally, was not feasible.

This apparent calamity led us to a valuable resource: the State Census Data Center (located in the Department of Finance, 1025 "P" Street, Sacramento 95814; (916-322-4651). In theory, Census data are available from regional Census depositories. In practice, however, data were not uniformly available at the regional or local level. The State Center, on the other hand, had everything we wanted and was willing to produce custom-tailored tables to suit our interests and specifications. Costs for work by the regional depositories were quite high, even for a single county, whereas the Center's fees were reasonable. Finally, the Center produces a variety of informative "how to" materials on the Census, including a Census Users Handbook (no charge for this), which is "must reading" for those who use Census data.

Costs for Census data can be substantial for standard tables and quite high for custom work (e.g., data for particular sub-areas, data by zip code rather than by Census tract, or cross-tabulations which are not part of a standard "package"). This situation suggests three guides:

- o Plan Ahead. Decide precisely which data you need before you order them. There is nothing more discouraging than paying for pages of tables which are of absolutely no use.

- o Shop Around. The State Center, the regional depositories, some counties and several private firms distribute Census reports. (We are aware of at least one regional depository which does so for the entire state.) Costs vary widely, so it's worth determining the best price for what you need.

- o Use the Library. If you don't need the latest iteration immediately, it may pay to wait until a nearby library obtains the bound volumes, then duplicate selected pages.

Mention of libraries raises a final strategy which we did not pursue for lack of time, but which others may wish to explore. Our intention was to obtain 1970 Census data (comparable to the 1980 data) and to use the two data sets in combination to project to or at least to speculate about the year 1990. (NOTE: Caution should be used in interpreting the phrase "comparable to," for apparently-like Census data from two decades may actually reflect a quite different measures.) This exercise has considerable potential, and we would encourage planners to pursue it if time and resources permit. Data from both the 1970 Census and from the 1975 Special Census are readily available in libraries.

Demographic data from other-than-the Census raised fewer questions and

were, for the most part, readily acquired. Population projections were obtained at no cost from the Demographic Research section of the Department of Finance (same address and telephone number as the Census Data Center), although the information on projection methods is not published. Population trend information published by the Employment Development Department (EDD), based on Department of Finance data, was acquired during the course of our search for Employment and Technology materials. (For details on the acquisition of EDD publications, please see the Employment and Technology section.)

Department of Education information on students with disabilities, included in the Demographics section of the charrette package, was obtained by direct inquiry of an analyst in the Department's Office of Special Education (721 Capitol Mall, Sacramento 95814; (916-323-4768). While our approach to this information was centralized, these and other pertinent data on students in K-12 would be available from most local school districts and would not necessarily have to be obtained long distance from Sacramento. We found that K-12 research offices, where they existed, were the best resources and that the Superintendent's office could frequently point us in the right direction.

In contrast to these purposeful approaches, we discovered the Center for Continuing Study of the California Economy purely by accident. While the Center has been in existence for several years, it was discovered, as it were, by a chance review of morning paper's headline which read: "HISPANICS MAY BE MAJORITY BY YEAR 2000." The article provided sufficient information for us to contact Directory Assistance in Palo Alto, where the Center is located, after which a simple phone call was placed to determine the nature and availability of Center materials. The Center can be contacted at 610 University Avenue, Palo Alto 94310; (415-321-8550.)

Center publications were expensive and considerable time was spent in an attempt to locate current versions in local libraries. The library-search approach may be ineffective if there is little time for information gathering. Ordering, cataloging and shelving publications takes libraries time, and "the latest" may not arrive before your research period is over. In the end, FIPSE purchased several recent items which had not, several months later, appeared on library shelves. An amazingamount of interesting information was identified because someone happened upon a reference to it during the course of non-business activities. Frequently, we found that simply mentioning our work to colleagues and friends was enough to generate a choice item.

The remaining items in the Demographics section of the charrette package were identified by: (1) a focused literature search and (2) recourse to local district representatives. The first of these strategies was the major contributor to the Lifestyles and Values section of the charrette package and will be discussed below. Our contacts with district representatives, however, merit further attention here.

We expected that local districts would have a considerable useful information at hand which they could simply lend us for the project research. Further, we thought that an appeal to faculty and staff might

unearth data and documents not ordinally available. Accordingly, as we visited each participating district, we requested both that we be loaned what was readily available and that districtwide memos be issued to request other pertinent documents and data.

Some districts had several documents, others had a few, and one was willing to take the time to track down relevant information in the community while we were on site. Our second expectation, however, proved to be in error. The one district which complied with our request sent out a memo describing what we had, what we were looking for, and why we wanted the information - and received a single publication in return.

Despite this, the information is "out there somewhere" and merely needs to be rounded up. Knowing how or when to obtain these data is the problem.

ECONOMICS

Much of the economics information in the FIPSE charrette package was derived from sources already discussed: the 1980 Census, the Center for Continuing Study of the California Economy, and local district representatives. This section, however, is based also on a fourth source: economic forecasts developed by both public and private sectors.

A variety of public entities issue regular economic forecasts, which can serve as one basis for future-oriented decision making. Numerous private organizations and corporations prepare and issue such forecasts as well.

All private sector economic forecasts acquired for the Charrette package were from major banks: The Bank of America, Security Pacific National Bank and Wells Fargo Bank. However, other statewide organizations - most notably savings and loan companies, major utilities and the telephone company - issue similar documents. Only because of time and space constraints, did we not pursue the latter. Planners should notlimit their forecasts to banks, but inquire of other statewide - and quite possibly even major local or regional - entities as well.

The forecasts were all obtained by direct telephone contact with the main office of the organization in question, a strategy which appeared to be the most efficient and expeditious. (While a written request would be considerably less expensive, it might take some time and it is easier to describe precisely what one is seeking during the give-and-take of a telephone conversation. The strategy adopted will probably depend on a weighing of the lead time available vs. the "futures budget.")

EMPLOYMENT AND TECHNOLOGY

Materials in the Employment and Technology section of the charrette package were obtained by tedious pursuit of the obvious and by total accident. (A few items were also identified by a literature search discussed in the next section.) The obvious source was the Employment Development Department, which publishes a wealth of information on the subject. The accidental source was the Department of Economic and Business Development, which to published two highly-relevant reports,

mentioned in a newsletter one of the researchers happens to read.

Our inquiries about (free) publications of EDD's Employment Data and Research Division (ED&R), which is responsible for issuing labor market information (both current and projected), met with varied resonses.

The best and place to begin the search for relevant labor market information is the Guide to the Use of Labor Market Publications (both federal and state), available from the Statewide Economic Analysis Group at 800 Capitol Mall, MIC-57, Sacramento 95814; (916-445-9380). This document lists a wide range of potentially applicable publications, subjects they cover, the geographical divisions and areas for which they are published, and the manner in which they can be obtained. Planners who intend to use the information they collect should also consider requesting a copy of How to Develop and Use Labor Market Information in Local Occupational Program Planning (1982), available from the California Occupational Information Coordinating Committee (1027 Tenth Street, Suite 302, Sacramento 95814; (916-323 6544). While this document was issued after the FIPSE charrette was over, it certainly appears pertinent.

In addition, we wrote the Federal Government and called the various ED&R locations. (Again, if you get nowhere at the local level, the Statewide Economic Analysis group may be able to help.)

A final note regarding Employment and Technology: although ED&R publishes a discussion of its projection methods in every report, this discussion is brief and lacks detail. For this reason, we interviewed those responsible for the projections' preparation in order to develop the charrette material on this subject. Information on labor market projection methods in the Technical Supplement to this volume may no longer be correct by 1984. ED&R intends to change its approach to labor market projections, but the direction of this change was as yet uncertain when our research was conducted. Those using ED&R projections should learn how projections are developed and the inherent limitations.

LIFESTYLES AND VALUES

Besides the 1980 Census and data from the Center for Continuing Study of the California Economy, virtually all material in the Lifestyles and Values section was derived from a focused search and review of the literature. The term "focused search" is a misnomer since the literature, is so voluminous. A more accurate statement of our methods might read as follows:

- Find out what is readily available
- Select the seemingly most important, relevant and/or interesting works
- Set priorities among the works thus selected on the basis of available time and reading inclinations.

While this process may not fulfill the requirements for a doctoral disseration, it should at least arouse the reader's interest. The futures

literature is exceedingly wide-ranging, unusually thought-provoking (providing one suspends the normal preoccupation with the near term), conceptually bold, and almost universally readable.

For the purpose of the FIPSE research, we defined "readily available" literature as literature acquired in the following manner:

- For a "basic library," we reviewed materials already collected by the FIPSE project director, a strategy which may or may not be replicated in other projects.

- To supplement this "basic library," we searched the card catalogs of the State Library, the public library and the local state university library. (The public library yielded the most - and the most interesting - material. The state college library had fewer items to offer, and the State Library yielded almost nothing. The Futurist, a journal devoted exclusively to the future, is a valuable source.)

- We also visited some local bookstores for works on the future. This proved to be a somewhat more difficult task than one might anticipate, because no bookstore we visited had a Futures section. However, depending on the store, we found some success in the Economics, Military,Politics/Political Science, Psychology and Sociology sections.

The processes we utilized for selecting works and for setting priorities among our selections may not lend themselves to replication. However, the three general criteria we employed merit consideration by others:

- The applicability of the work to one or more of the five content areas identified by the FIPSE Project

- The potential contribution of the work to maximum breadth and minimum redundancy within the charrette package

- The apparent interest value of the work, both to those who had to read it and (hopefully) to those who would use the summary of it during the charrette

These criteria were ranked, in that the first two took precedence over the third. We read some works to obtain breadth and eliminated other items because they didn't fit the FIPSE content areas. The first two criteria structure the process, but the third criterion is important as well to maintain the interest of planners and their ultimate audiences.

The last portion of the Lifestyles and Values material contains locally-developed scenarios which discuss possible alternative futures for two of the participating pilot test districts. One was identified by a district representative, while the second was identified through a newsletter

which, on page five, mentioned a study of the future of Los Angeles. Aside from these two pieces, however, we had little success obtaining locally-developed scenarios even when we learned of their existance.

EDUCATION

Perhaps the most valuable resource for the "current information" on Education was the Education Digest, published annually by the California Postsecondary Education Commission (CPEC). This document, full of statistical data accompanied by brief discussions of their meaning, is available upon request at no charge from the CPEC Library (1020 12th Street, Second Floor, Sacramento 95814; (916) 445-7933).

Additionally, Census data, the literature search and contributions by local district representatives played a role in the development of this section. Prior knowledge - of data available from the Chancellor's Office, of the enrollment projections prepared by the Department of Finance and of the public opinion survey on the community colleges conducted by Field Research Corporation - also entered in. Finally, we excerpted bits and pieces about education from works included primarily in the Employment and Technology section, accidentally encountered a newspaper article reporting on a California State University (CSU) study of the future, and contacted the State Department of Education (SDE) for information which we needed to fill in gaps. Our request to SDE for information on the future of adult education led to a personal interview about the future of adult education and to a set of tables which, although not officially published, were very useful.

A Summary of Guidelines

In General...

- o The person who seeks to explore the future would be wise to keep eyes and ears attentively open at all unlikely times.
- o Just because you don't know it's available or because it doesn't appear to be available doesn't mean it isn't available. It pays to ask.
- o Some things are simply not obtainable no matter how hard you try, and it might be worth deciding before you start out what level of effort any given item merits.
- o You are more likely to obtain material If you are on-site. It might be worth identifying recipients of materials who are in some way tied to the issuing entity - at least by geographical proximity - so as to maximize the chances of successful acquisition.

In Pursuing Census Data ...

- o Plan ahead and decide precisely what you need before you order the data.
- o Shop around for the best price for what you need.
- o If there is time, use the library.

In Conducting a Literature Search ...

- o Find out what is readily available locally.
- o Select the seemingly most important, relevant and/or interesting works.
- o Set priorities among the works thus selected on the basis of available time and reading inclinations.

To Prevent Imbalance Establish Three Selection Criteria ...

- o The applicability of the work to one or more of the areas of interest
- o The potential contribution of the work to maximum breadth annd minimum redundancy wiithin your expected final product
- o The apparent interest value of the work, both to those who have to read it and (hopefully) to those who will be expected to use it

To Improve and Expand Upon the FIPSE Project's Efforts ...

- o Compare 1970 Census data to 1980 Census data for purposes of speculating about or projecting to 1990.
- o Entice staff into submitting relevant materials.
- o Obtain economic forecasts from a variety of organizations
- o Call upon the Statewide Economic Analysis Group for assistance in obtaining labor market information.

APPENDIX C

SUMMARY OF INFORMATION USED IN PLANNING CHARRETTE

THE DETAILED INFORMATION IS AVAILABLE UPON REQUEST AS A TECHNICAL SUPPLEMENT TO THIS VOLUME

DEMOGRAPHICS

The demographics section describes the characteristics of residents of California and of the areas served by the five pilot districts: Long Beach, Cabrillo, Redwoods, Yosemite, and San Francisco. Included are data developed by the United States Census, the California State Department of Finance, the California State Employment Development Department, the California State Department of Education, the Center for Continuing Study of the California Economy, two independent authors and a variety of local entities.

These data describe the population as it is currently and as it is projected. Material is grouped into four parts: Current Population Characteristics; Population Projections; Employment Development Department Population Trend Information; and Local Discussion of Population and Population Projections.

Current Population Characteristics presents data from the 1980 Census on five selected population chacteristics: sex, age, ethnicity, language spoken at home and ability to speak English, and reported disability. Also included in this section is information provided by the Department of Education on the types of disabilities present among disabled students aged 6 to 17 whose education is being supported by public funds.

With the exception of the Department of Education data, which were supplied for local areas only, all of the data in this section are provided both for the state as a whole and for each of the counties served by the pilot test districts. Tabular presentations of the data are folowed by brief narrative discussions which compare local populations to the population statewide.

The second part, Population Projections, contains projections developed either by the Department of Finance or by the Center for Continuing Study of the California Economy. The discussion begins with the ways these two organizations develop their forecasts. This is followed by tabular presentations and narrative discussions of each organization's projections of total population for the state and for each county served by the pilot test districts to the year 1990 and by a third table and narrative which compare and summarize differences between the two sets of projections. Projections of total populations are then followed by three series of

projections to the year 2000 which were prepared by the Center. The tables and narrative discussions of these data are preceded by a brief description of the underlying assumptions and inherent limitations of the Center's forecases, particularly for ethnicity. Finally, we conclude with summaries of two journal articles on the future of California's largest ethnic minority group, the Hispanic population.

The third part of the demographics section, Employment Development Department (EDD) Population Trend Information, presents current and projected population information derived from various EDD publications. Beginning this section are brief overviews of population growth for the Cabrillo College service area (Monterey and Santa Cruz Counties), part of the College of the Redwoods service area (the "Humboldt-Del Norte region") and most of Modesto Community College (Yosemite) service area (Merced and Stanislaus Counties). These overviews are followed by detailed trend information for counties in all five pilot districts.

The last part, Local Discussions of Population and Population Projections, contains discussions and projections which were identified either by partcipating districts or by FIPSE project staff. This information covers Santa Cruz County (prepared by the Association of Monterey Bay Area Governments), the City of Long Beach (prepared by the Long Beach Chamber of Commerce), Humboldt County (prepared by the Humboldt County Planning Department) and the City and County of San Francisco (prepared by a local Strategic Plan Management Committee and Arthur Andersen & Co.). (Similar local discussions undoubtedly exist for other areas but were not brought to our attention, and it was beyond the scope of the project actively to seek them out.)

ECONOMICS

This section contains information on the national and state economies as well as on the economies of the areas served by the five pilot districts. Descriptive data derived from the United States Census and from local publications to outline curent economic conditions constitute a substantial proportion of the content. However, there are also economic forecasts. The information has been grouped into (1) Economic Indicators, (2) Economic Forecasts, and (3) Projections and Locally-Developed Economic Information.

Economic Indicators presents data from the 1980 Census on (1) Median Household; (2) Family Income; (3) Median Housing Unit Value; (4) Median Contract Rent; and (5) Poverty Status. Tabular presentations of these data for the state as a whole and for the areas served by the five pilot districts are followed by brief narratives which compare and contrast local indicators to statewide figures.

The second part, Economic Forecasts and Projections, summarizes general forecasts by six organizations: The Congressional Budget Office; the federal Office of Managment and Budget; the Governor's Office, State of California; the Bank of America; Wells Fargo Bank; and Security Pacfic National Bank. These forecasts are followed by more specific projections

of household income and taxable sales through the year 1990 which were prepared by the Center for Continuing Study of California Economy. The Center's projections are presented in tabular form for the state as a whole and, where available, for each of the counties served by the five pilot districts. These tabular data are then followed by an over-view of the Center's projection method, the projections themselves and, where appropriate, comparisons of local to statewide projections. Finally, there are two brief "comments on the future": an excerpt from a federal publication about effects of the nation's changing age structure on the national economy; and a summary of a journal article on the coming "information economy."

Locally-Developed Economic Information contains discussions of economic conditions and projections, prepared at the local level: Santa Cruz County (prepared by the Association of Monterey Bay Area Governments), the City of Long Beach (prepared by the Long Beach Area Chamber of Commerce), Humboldt County (prepared by the Humboldt County Planning Department) and the City and County of San Francisco (prepared by local Strategic Plan Management Committee and Arthur Andersen & Co.).

EMPLOYMENT AND TECHNOLOGY

This section covers the current status and future prospects of employment technology for the State of California, for the nation and for the five pilot districts. This information is derived from a variety of private organizations, state agencies, the federal government, newspapers, journals and books. Three excerpts from these writings are presented: Employment and Technology in California; Global Perspectives on Employment and Technology; and Local Employment and Unemployment.

The first excerpt, Employment and Technology in California, draws from three publications produced by private organizations. The California Economy: 1970-1990, prepared by the Center for Continuing Study of the California Economy for the California State Department of Economic and Business Development, discusses overall job growth and job growth by industry, with an emphasis on jobs in "high technology industries." The state as a whole is the major focus of this work, although data on seven "economic regions" of California are also included. High Technology and the California Workforce in the 1980s, prepared by SRI International for the same department, lists 19 "emerging technologies" which the organization terms "representative technologies significantly affecting California's workforce in the 1980s." These technologies are then discussed in terms of their implications for the California economy, their impact by industry and by occupation. Finally, Technical Employment Projections, prepared by the American Electronics Association, specifically focuss on the electronics industry's ned for skilled workers through the year 1984. (The information from this publication which is included here covers the industry's need for workers in the paraprofessional/technician categories - i.e., those most likely to be educated and trained by community colleges. The report itself also covers industry needs with respect to professional personnel.)

The second excerpt of this section, Global Perspectives on Employment and Technology, draws from nine works which discuss nation- or world-wide trends, prospects and/or predictions. The first work, "One View of the Future," is a relatively optimistic global view of conditions through the year 2081, summarized from a book focusing on those technological changes which are likely to evolve from current technologies. "Careers With a Future" summarizes a journal article of the same title which outlines the occupations predicted to generate substantial numbers of new jobs by the year 2000. "The Electronic Office," describes the "office of the future" in terms of its equipment, the equipment's capabilities and the consequent changes which are expected in the way office workers function.

The remaining three items describe changes in the composition of the nation's labor force: its growth and age structure ("The Labor Force," taken from a federal government publication), and discuss the retraining needed as old jobs disappear and new ones emerge due to technological change ("The Need for Retraining I" and "The Need for Retraining II"). Both of these last two pieces stress the role education will need to play in "retooling" large segments of the nation's workforce so that they can cope with new technologies and with new ways of working.

The final part of this section, Local Employment and Unemployment, presents localized employment information developed by the California State Employment Development Department. This information begins with a table portraying civilian labor force, employment and unemployment for the state and for each county served by the five pilot districts, This is then followed by a narrative discussion of the data comparing local unemployment figures to the statewide total, and finally, the section concluding with "Economic and Labor Force Trends and Outlook: summaries for the nation, the State of California and the five districts' counties. (All counties prepare at least some information of this nature, although it is occassionally only contained in working papers which are difficult to obtain. In this particular instance Monterey County was omitted because the portion of that county which is included in the Cabrillo Community College District represents minimal employment.)

LIFESTYLES AND VALUES

This section addresses the current and possible future lifestyles, attitudes and values both of Californians and of Americans in general, most of which derives from books and journal articles about the future. However, the section also includes data from the United States Census, projections prepared by the Center for Continuing Study of the California Economy and senarios developed by two local organizations. These materials are grouped into: (1) Current Lifestyles; (2) Predictions of the Future for the State and the Nation; and (3) Predictions of Local Futures.

The first part, Current Lifestyles, contains data derived from the 1980 Census on selected lifestyle variables: (1) Location of Population (urban, rural farm, or rural non-farm); (2) Marial Status (single, married, or separated, widowed or divorced); (3) Household composition

(one person, married couple, single-parent family, or non-family); (4) Housing Occupancy Status (owner-occupied or renter-occupied); and (5) Workers' Commute Times. Tabular presentations of these data for thestate as a whole and for each of the counties served by the five districts are followed by brief narratives which compare local configurations to statewide information.

Predictions of the Future for the State and the Nation is taken from a variety of more global and futuristic writings, ranging from an historical examination of changes in American beliefs and values through concrete projections for the year 2000 to speculations about the world of tomorrow. This starts with two retrospective works on changes in public opinion over time ("America's Beliefs and Values") and on projections for the years 1985 and 1990 prepared by the Center for Continuing Study of the California Economy. The first is a summary of several "Demographic and Economic Projections" for the State of California, including total population, number of households, taxable retail sales, new housing units, housing stock and income. The second focuses on "Household Formation Rates" and the factors which affect decisions to form households.

The largest group of material in this section consists of summaries of individual authors' and agencies' predictions for the future. Thesecommence with "An Overview of the Future," prepared by the Chancellor's Office, followed by a series of predictions for the 1980s made by the Director of the United States Census Bureau. Next is a collection of time-specific forecasts from a variety of futures studies. This is followed by a brief list of the global qualities of "The World of Tomorrow." Finally, there are cluster summaries of two popular books which predict the general nature of the future: The Third Wave by Alvin Toffler and Megatrends by John Naisbitt.

Next in the section are three summaries of works which predict particular aspects of the years to come. The first is on "Sexual Equality, Motherhood and Child Rearing in the Future," the second reviews the prospects for and advantages and disadvantages of "The 'Electronic Cottage,'" and the third examines some implications of cable television.

To complete this section, Predictions of Local Futures assesses future prospects for two of the areas served by pilot districts. The first of these studies, prepared by the Center for Future Research at the University of Southern California, considers possible futures for Los Angeles in the year 2001. The second, prepared by a local Strategic Plan Management Committee in consultation with Arthur Andersen & Co., reviews "key trends and significant issues" which will affect the future of the City of San Francisco.

EDUCATION

This section describes the current status of and future prospects for postsecondary education at the national, state and local levels. Contents range from statistical data on enrollments to speculations about the state of higher education in the year 2000, derived from a variety of sources: the Census, federal and state agencies, private research organizations, collections of essays, books, and two local organizations. The materials are grouped into: (1) Current Education Data; (2) Prospects for the Future; and (3) Local Education Information.

Current Education Data contains information on the present status of education in California. First is a series of tables and accompanying narratives derived from information published by the California Postsecondary Education Commission. The initial series portrays "Rates of College Going" among the state's high school graduates for each of the state's three public postsecondary education segments. These rates are presented for all graduates: by sex and by ethnicity. The second series describes "Enrollment Patterns" for the years 1977-1981, for all three segments and for the state's community colleges. Included in this series are data on total enrollment (projected to 1984), percentage of total enrollment by segment, enrollment by sex, by age and by ethnicity by sex, average credit load by sex, and the relationship between headcount enrollment and seasonally-adjusted unemployment. The third series portrays the "Awarding of Degrees" by all three segments and by independent institutions. All of these data are displayed by sex of recipients.

The next item in this section, "Community College Enrollment Trends," was prepared by the Chancellor's Office. It discusses enrollment patterns from 1979 through 1984 in terms of the sex, age and ethnicity of students. Following this are three additional tables and narratives derived from CPEC materials. The first of these discusses "Community College Faculty" during the period 1977-1981 in terms of numbers with tenure, average salaries, and numbers of full-time faculty. These data are displayed for community college faculties as a whole and by faculty members' sex. The second set of tables and narratives addresses "Postsecondary Education Finance" between 1971-72 and 1980-81 for all three segments. Included here are data on the distribution and amounts of state vs. segmental support and trends in capital outlay appropriations. Finally, there is a set of tables and narratives portraying headcount and average daily attendance enrollments in adult education programs for the years 1973-74 through 1980-81.

A discussion of "Attitudes Toward Community Colleges" is based on the results of a public opinion survey conducted by Field Research Corporation in the Fall 1979. Among the summarized survey responses are the public's awareness of the community colleges, past community college attendance, reasons for attending and assessment of the colleges' performance.

The next part of the Education section, Prospects for the Future, contains

summary excerpts from works which take a relatively long-term global look at the future of education, particularly postsecondary education.

This material starts with "An Overview of Future Conditions in Education" prepared by the Chancellor's Office and then continues with "The U.S. Department of Labor's Perspective." Following this is a summary of the Carnegie Council on Policy Studies in Higher Education's report on the future of higher education, which addresses major trends, the future of enrollments, issues which must be addressed in considering the years to come, goals for the year 2000, and choices which can be made "to affect the welfare of higher education."

The section continues with summaries of two sets of essays: one group of "Essays on the Future of Education Policy" and two "Essays on the Future of Education Finance." The former covers the social, economic and political environment in which education will be functioning during the 1980s; the relationship between demographic changes and school finance and organization; and trends in school governance. One of the latter two essays considers the effects of fiscal conservatism on education, while the other addresses finance issues and priorities for the 1980s.

After these essays come excerpts from a work entitled California's Technological Future (most of which is summarized in the chapter on Employment and Technology) which suggest some of the problems and challenges California's educational system may confront in dealing with the demands of the "new 'information era.'" These excerpts are followed by two segmental perspectives: "CSU's View of the Future," which was taken from a report prepared by California State University's Committee on the Future; and "The Future of Adult Education," derived from interviews with Department of Education Adult Education personnel and from tabular material prepared by the Department. CSU's futures material covers "Society in the Year 2000" and selected "Alternative Future Scenarios." The Adult Education information includes the current and recent historical distribution of adult education enrollments as well as a discussion of possible near-term future scenarios for adult education programs in California.

This part of the section concludes with summaries of two essays on "Educating for the Future," which consider the manner in which educational institutions can contribute to preparing students for the coming decades. Both of these essays call for a greater involvement of students in their own education and for what is termed "the integration of learning and living."

The third and final part of this section, Local Education Information, contains current data, projections and locally-developed matrials for the areas served by the five pilot districts and the institutions themselves. Beginning with a tabular presentation there is discussion of public and private secondary school enrollments in the counties served by the five districts for 1978 through 1980, derived from California State Employment Development Department publications. This information is followed by a table and a narrative portraying K-12 limited-and non-English-speaking

enrollments in the same areas for 1979 and 1980, provided by the California State Department of Education.

Next are California State Department of Finance projections of high school graduates for each of the five districts for 1983-1990 along with actual and projected community college district enrollments for the years 1975, 1980, 1985 and 1990. Actual and projected community college enrollments are then shown in terms of the percentage of enrollments which is or will be non-credit. Data are accompanied by brief narratives which compare and contrast the five districts. All projections are preceded by a discussion of the Department of Finance's projection methods.

Finally, the section concludes with three items which were developed at the local level: an "Educational Profile" of the City of Long Beach developed by the Long Beach Area Chamber of Commerce; a section on "Education" from the Humboldt County General Plan; and "Attitudes Toward Community Colleges II," a summary of a public opinion poll, similar to the statewide poll that was conducted for College of the Redwoods by Field Research Corporation.

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